



# **Mineral Resources Division of Manitoba Innovation, Energy and Mines**

James D. Bamburak

Presentations to:  
Winnipeg Rock and Mineral Club  
January 14, 2010  
Manitoba Mineral Society  
February 3, 2010



# Mineral Resources Division

- History
  - Labour pains and birth
  - Department name changes
  - Change in status from Branch to Division
  - Building locations
  - Early staff
- Present Configuration, Components and Responsibilities
  - Manitoba Geological Survey
  - Mines Branch
  - Petroleum Branch
  - Minerals Policy and Business Development
- Interesting Sidelights



# Labour Pains and Birth

- Although the Province of Manitoba entered Confederation in 1870, its Natural Resources were retained by the Federal Government for sixty years.
- The transfer of Manitoba's Natural Resources occurred on July 15, 1930.
- In anticipation of this transfer, the Department of Mines and Natural Resources was created on May 9, 1928; and this date marks the birth of the Mines Branch, which is now known as the Mineral Resources Division.



# Labour Pains and Birth



John A. Campbell



Robert C. Wallace

- However, the origins of the Department began much earlier in May 1916, when John Archibald Campbell was appointed Commissioner for Northern Manitoba (under the Manitoba Public Utilities Commission). In 1917, Campbell resigned to seek election to the House of Commons. He was replaced on Dec. 1, 1918 by Robert Charles Wallace, then Professor of Geology at the University of Manitoba, until 1921 when Campbell returned as Commissioner. Campbell then served as Commissioner until 1924.
- In 1927 Robert Charles Wallace, became Commissioner of Mines (under the Dept. of Agriculture). He also served as a Director of the Industrial Development Board of Manitoba (created by the Manitoba Government, Winnipeg City Council, Winnipeg Board of Trade, Winnipeg Trades & Labor Council, Winnipeg Electric Co. and Manitoba Power Co.; and chaired by the Hon. John Bracken).

# Labour Pains and Birth



Robert C. Wallace



- Wallace served as Commissioner until May 9, 1928 when he became Commissioner of Mines and Natural Resources under the new Department of the same name. He continued in this position until Sept. 1, 1928 when he resigned from both the University and the Government to become President of the University of Alberta.
- Justin Sarsfield DeLury replaced Wallace as Commissioner until the transfer of Resources on July 15, 1930, when he became Provincial Geologist with the Department (a position he held until 1944 when he resigned his twin positions of Provincial Geologist and Head of the Department of Geology, University of Manitoba).

# Labour Pains and Birth



Hon. John Bracken



Hon. D.G. McKenzie

- With the creation of the Department of Mines and Natural Resources on May 9, 1928, the Honourable John Bracken, Premier of the Province of Manitoba, was sworn in as the first Manitoba Minister of Mines and Natural Resources.
- However, on October 22, 1928, the Honourable D.G. McKenzie was sworn in to succeed him, as Minister of the Department.

# Department Name Changes

- 1928 – Mines and Natural Resources
- 1976 – Mines, Resources and Environmental Management
- 1978 – Mines, Natural Resources and Environment
- **1979 – Energy and Mines**
- 1999 – Industry, Trade and Mines
- 2003 – Industry, Economic Development and Mines
- 2006 – Science, Technology, Energy and Mines
- 2009 – Innovation, Energy and Mines



# Change in status from Branch to Division

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- 1928 – 1979 Manitoba Mines Branch

With the Department name change to Energy and Mines in 1979, there was also a major change from branch to division status. This change was also marked by the former position of Director being elevated to Assistant Deputy Minister; and the former section head positions assuming director levels.

- 1979 – 2010 Manitoba Mineral Resources Division (or Minerals Division)





# Building locations



1928 – 1962, Law Courts



1962 – 1974, Norquay Building



1974 – 1984, Century Plaza



1984 – 1994, Eaton Place

# Building locations

- Other locations in the past – Dauphin, Cold Lake, Thompson, The Pas.
- Other current locations – Flin Flon, Waskada, Virden, Centennial Mine Site, also rock storage facilities in Lynn Lake, The Pas, Thompson, Brady Road, U. of M.



Provincial Building in The Pas



Brady Road,  
South Perimeter Hwy.



# Building locations

## 1994 to ?, Ellice Centre



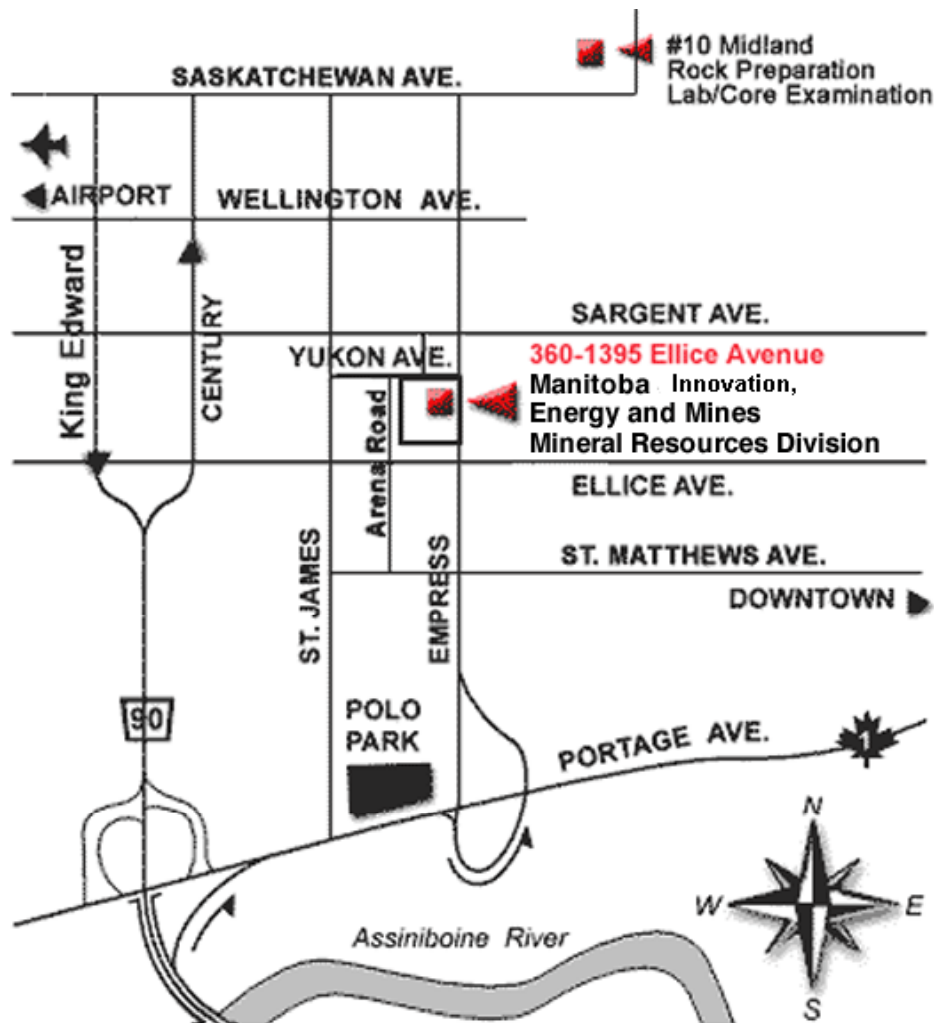
2008-08-01



2010-01-08



# Building locations



- 360-1395 Ellice Avenue
  - Geological Survey
  - Mines Branch
  - Petroleum Branch
  - Minerals Policy and Business Development
- 10 Midland Street
  - Rock preparation lab
  - Core examination

# Mineral Resources Division

Minister, IEM  
Hon. Dave Chomiak



Deputy Minister  
John Clarkson



Assistant Deputy  
Minister for MRD  
John Fox



Director  
Geological Survey  
Ric Syme

Director  
Mines Branch  
Ernie Armitt

Director  
Petroleum  
Keith Lowdon

Acting Manager  
Minerals Policy and  
Business Development  
Chris Beaumont-Smith



# Mineral Resources Division

- promotes wise land management and environmentally sustainable economic development in the province based on Manitoba's mineral and petroleum resources;
- fosters and enhances business development opportunities in mineral and petroleum economic development through promotion and marketing activities;
- provides authoritative documentation of the province's mineral and petroleum endowment and development potential;
- administers the delivery of mineral and petroleum industry support programs;
- administers legislation governing the disposition of mineral rights, oil & gas rights, exploration, development and production of Manitoba's mineral and petroleum resources and, the rehabilitation of mines, quarries and abandoned petroleum sites; and
- administers and enforces regulations under [\*The Mines and Minerals Act and the Oil and Gas Act\*](#) to ensure worker and public safety and to minimize environmental impacts of industry activity
- acts to ensure worker and public safety and to minimize environmental impacts of industry activity.





**Assistant to the  
Assistant Deputy Minister:  
Barb McLean**

**Administrative Services  
Accounting Clerk  
Sharon Zest**



# Manitoba Geological Survey



**Acknowledgement to:**  
**Ric Syme**  
Director  
Manitoba Geological Survey





# Manitoba Geological Survey

- The Geological Survey conducts a wide range of investigations in:
  - Precambrian Shield
  - Western Canada Sedimentary Basin
  - Hudson Bay Basin.
- Investigations include examination of exposed bedrock, subsurface materials, and surficial sediments including sand, gravel and organic deposits.
- Provides data and products such as geological maps and reports, metallic and industrial mineral deposit reports and databases, mineral resource assessments, targeted geoscience research, development of exploration models, and maintenance of data inventories.
- By developing an understanding of Manitoba's geology and geological processes, the Survey promotes mineral exploration opportunities and contributes to wise land-use management.



# Administrative Support

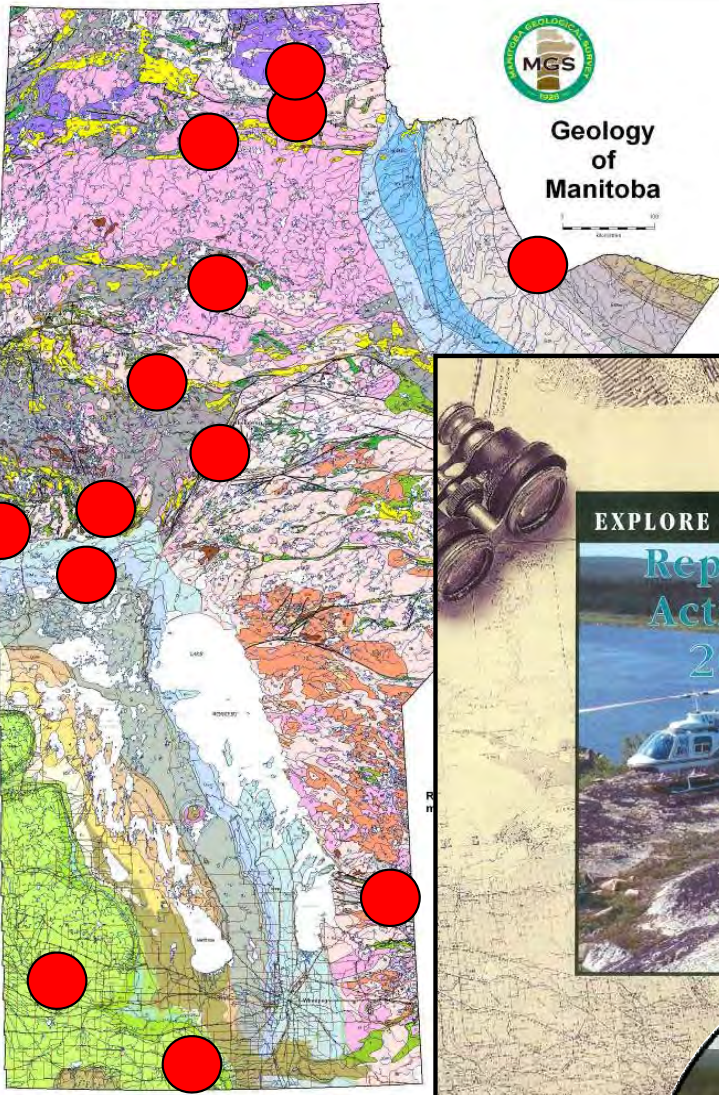
**Kelly Proutt**

**Candace Regan**

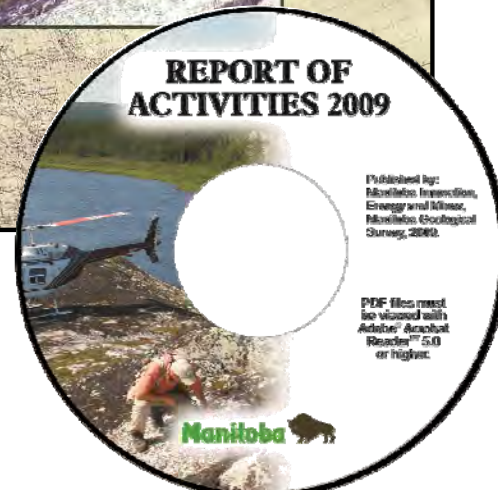
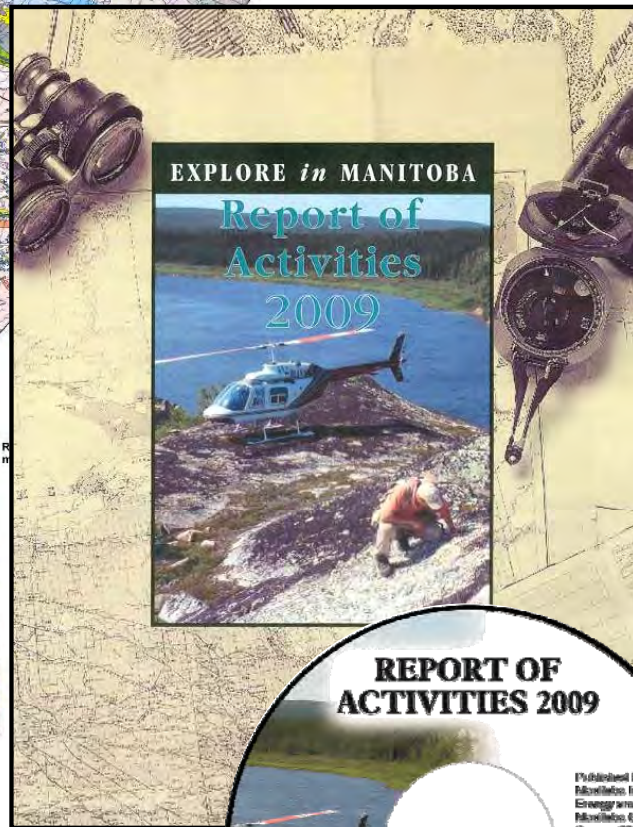
**Leah Chudy  
(retired)**

**Lynne Bobier**

**Diana Savage**



Geology  
of  
Manitoba



## MGS activities

1. Flin Flon Targeted Geoscience Initiative
2. Far North Geomapping Initiative
3. Results from other projects
  - Precambrian
  - Phanerozoic
  - Digital products
4. New data releases

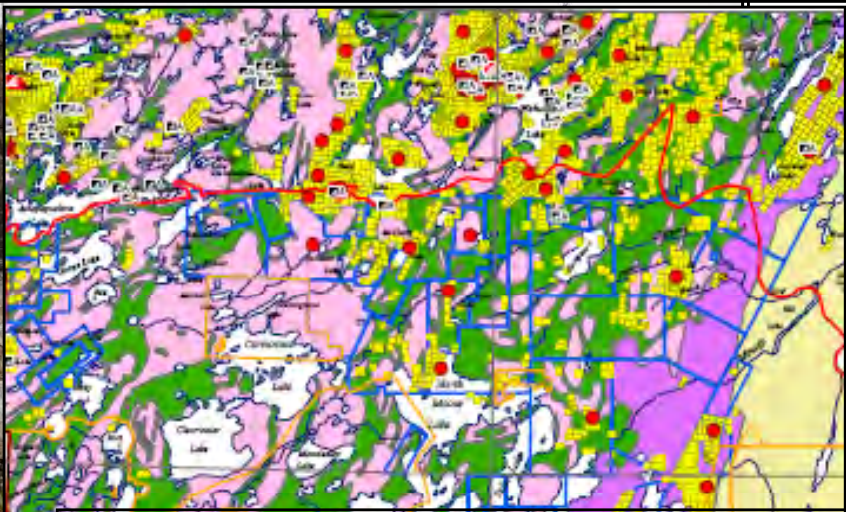


# Manitoba Geological Survey activities 2009

Regional and detailed geological investigations

Geoscience information for decision-making (e.g., protected areas)

Public outreach and education



Map



Training at Tadoule Lake



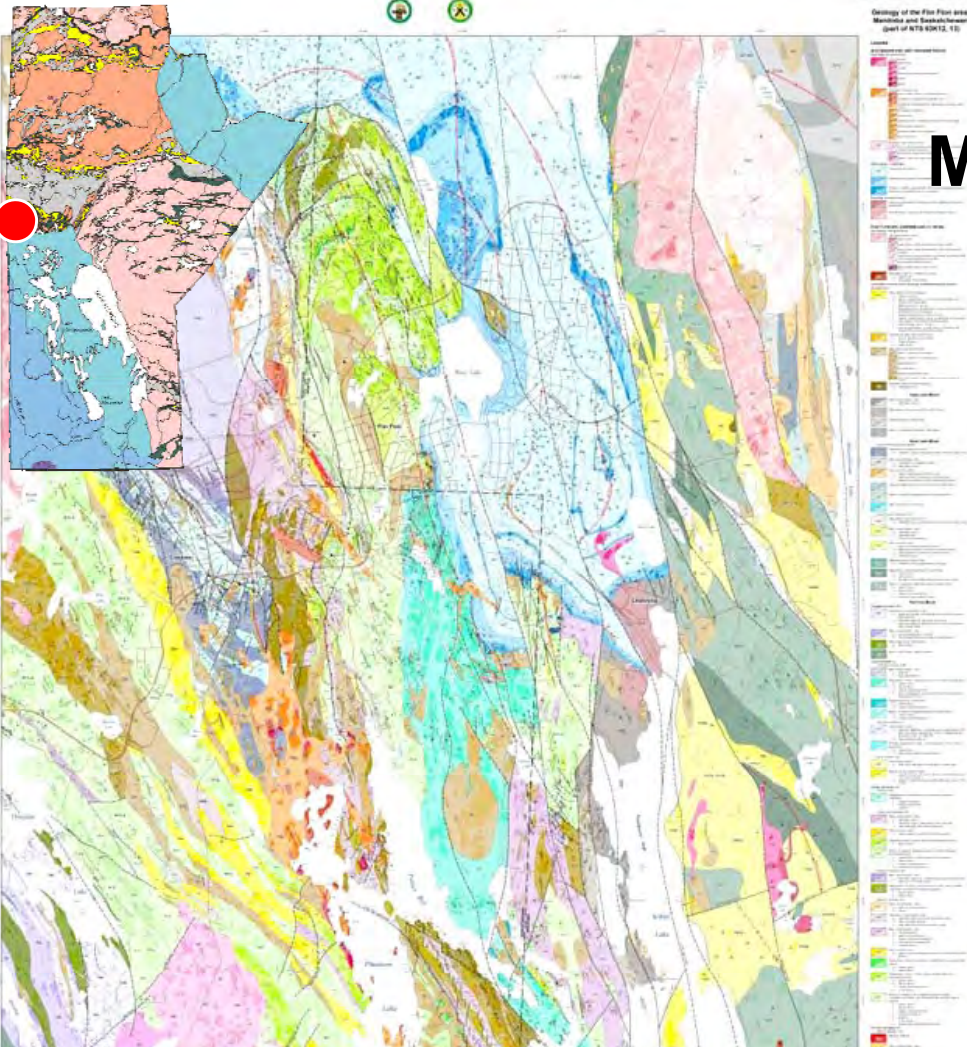
Mining Week at The Forks

Phanerozoic mapping

# Flin Flon TGI-3 project: MGS projects in the Flin Flon area

## 1:10 000 cross-border map:

- coherent lithostratigraphic and structural framework – 1<sup>st</sup> upgrade in more than 50 years
- recognition of the **mine stratigraphy** beyond the mine surroundings
- new **age dates** – opens up same-age but previously unexplored successions near Flin Flon.
- ability to recognize and map **volcanic subsidence structures**: essential for exploring for VMS deposits at Flin Flon; applicable to greenstone belts elsewhere in Manitoba and Saskatchewan



Renée-Luce Simard  
(geology co-ord.)

Maureen McFarlane  
(cartography)



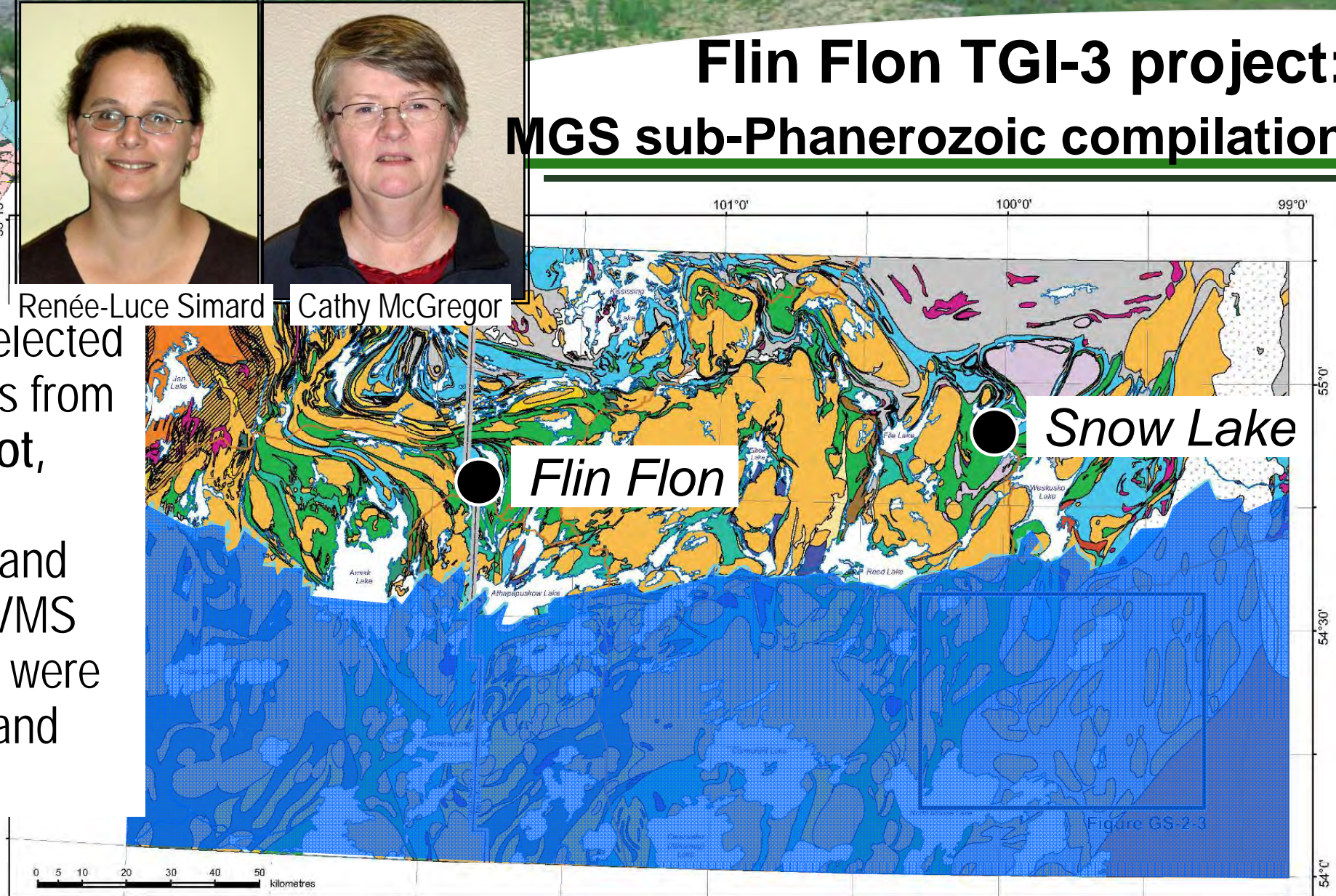
# Flin Flon TGI-3 project: MGS sub-Phanerozoic compilation



Renée-Luce Simard

Cathy McGregor

2009: Selected drill holes from the Talbot, Fenton, Harmin and Moose VMS deposits were studied and sampled

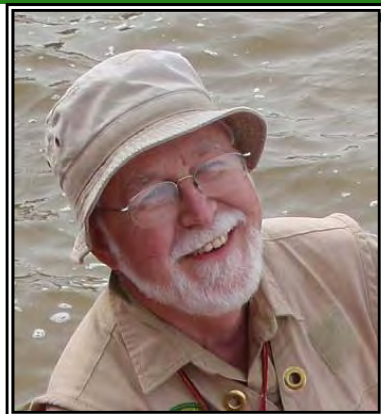


➤ Objective: produce a **set of revised geological maps** for the sub-Phanerozoic geology of the Flin Flon Belt and better define the various domains using new geophysical, isotopic, geochronological and geochemical data

# Flin Flon TGI-3 project: MGS Notigi and Wapisu - NE Kisseynew



Linda Murphy

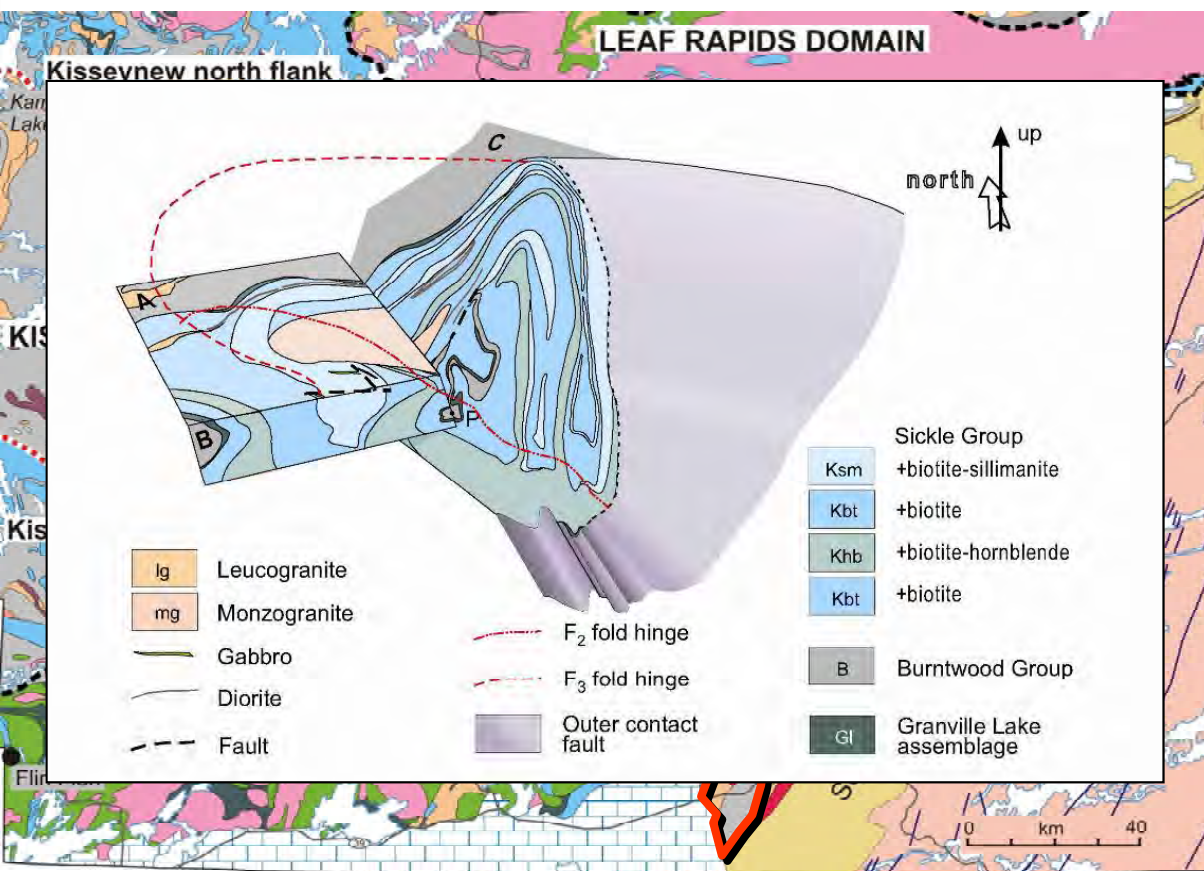


Herman Zwanzig

- 3<sup>rd</sup> year mapping at Notigi Lake, on the northern flank of the Kisseynew Domain

➤ **Structural model** for TNB-type rocks (Archean orthogneiss with a sedimentary cover) found in the NE Kisseynew Domain

- These TNB-type rocks may host Thompson-type nickel deposits

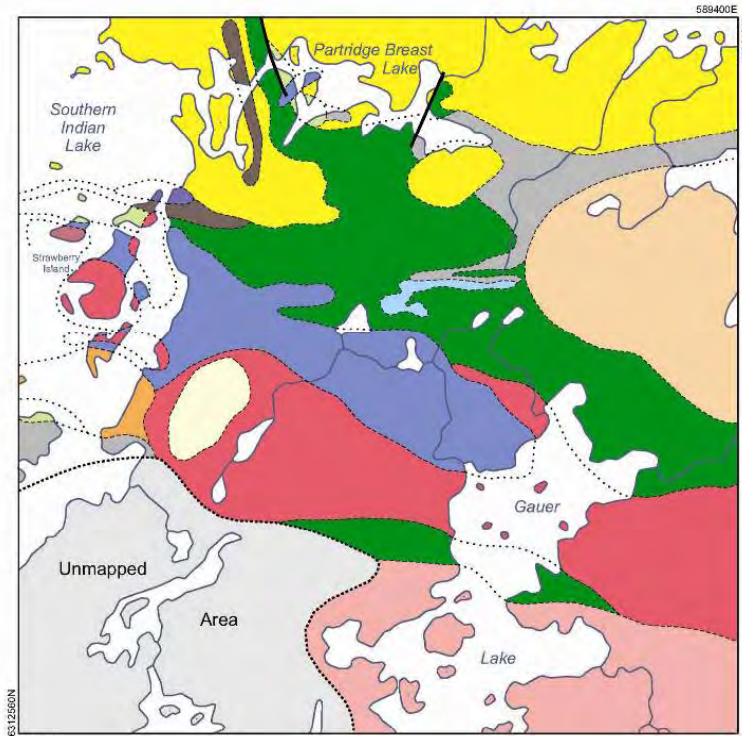


# Flin Flon TGI-3 project: MGS Southern Indian Lake mapping



Paul Kremer

- 2<sup>nd</sup> year of a 2-year project to map supracrustal rocks in the Southern Indian Lake area



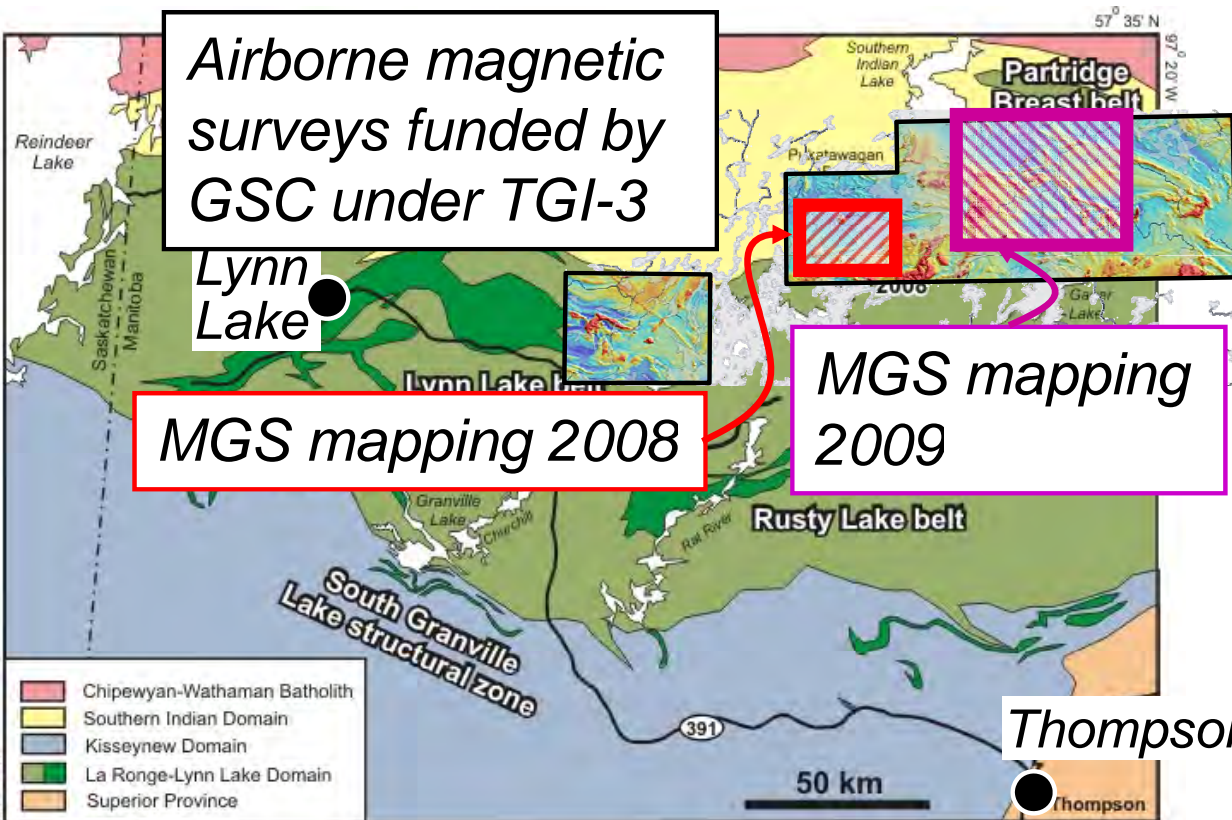
Airborne magnetic surveys funded by GSC under TGI-3

Lynn Lake

MGS mapping 2008

MGS mapping 2009

- Identification of **Archean** (Sask-craton age) crust
- U/Pb detrital data suggests that **age of volcanism** is correlative with other VMS-hosting volcanic rocks in the THO (Flin Flon, Lynn Lake)



Thompson

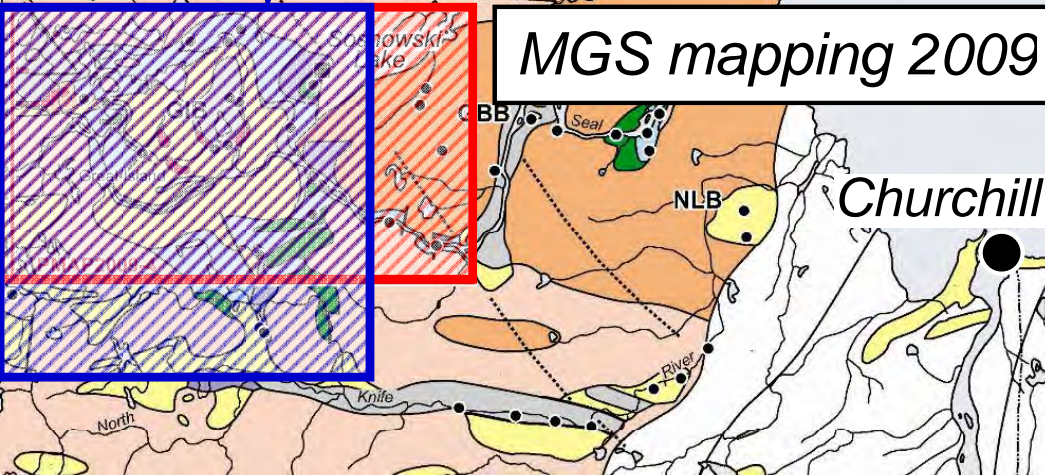




## 2. Far North Geomapping Initiative

Airborne magnetic  
survey funded by  
GSC under GEM

MGS mapping 2009



- New provincial initiative - **\$1.5 M over 3 years** (2008-2010)
- In conjunction with GSC Geomapping for Energy and Minerals (GEM) program
- **2009: Great Island region**
  - key exposures of Proterozoic cover sequences
  - only known exposures of Archean greenstone belt in MB's far north
  - several important mineral occurrences
- a significant upgrade of the existing geological map was made by integrating 2009 mapping with newly acquired aeromagnetic data



# Far North Geomapping Initiative



Student trainees, Tadoule Lake



- MGS delivered a two-week geological mapping course with the **Sayisi Dene First Nation** at Tadoule Lake, to:
  - provide the basic skills needed to work in a mineral exploration camp
  - increase community awareness of the region's geology and mineral resources
  - foster information sharing between Tadoule and MGS
- four members of the community were hired as student-trainees
- plans are for a second two-week course in 2010



Strategic Training and Transition Fund



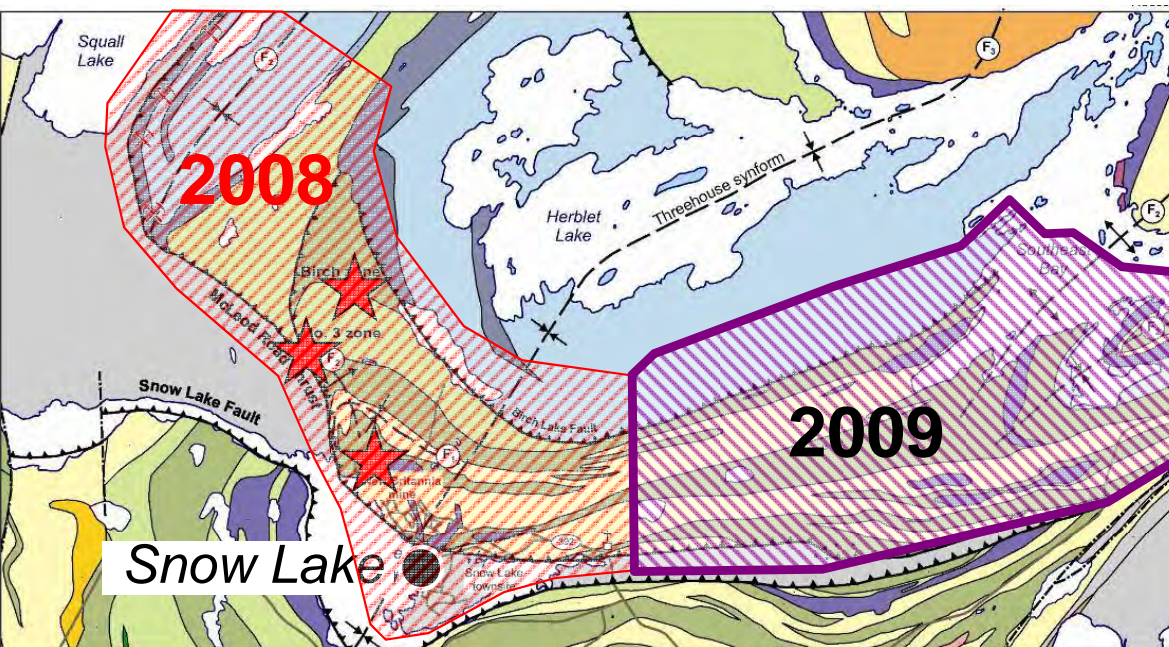
# 3. Stand-alone projects

# Snow Lake gold metallogeny

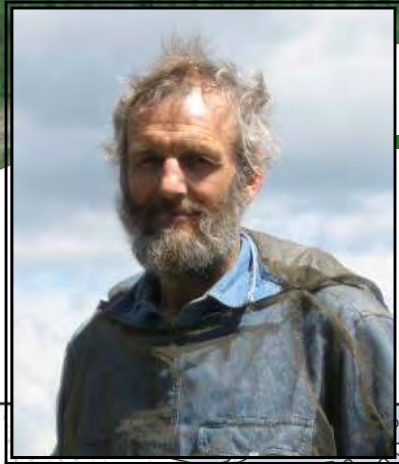


Simon Gagné

- Geological mapping east of the town of Snow Lake
- Started 2008; expanded upon the existing 1:20 000 scale mapping.
- Goal – constrain gold exploration models by understanding structural setting
- **Gold mineralization is:**
  - spatially associated with the McLeod Road Thrust
  - commonly situated along or adjacent to lithological contacts



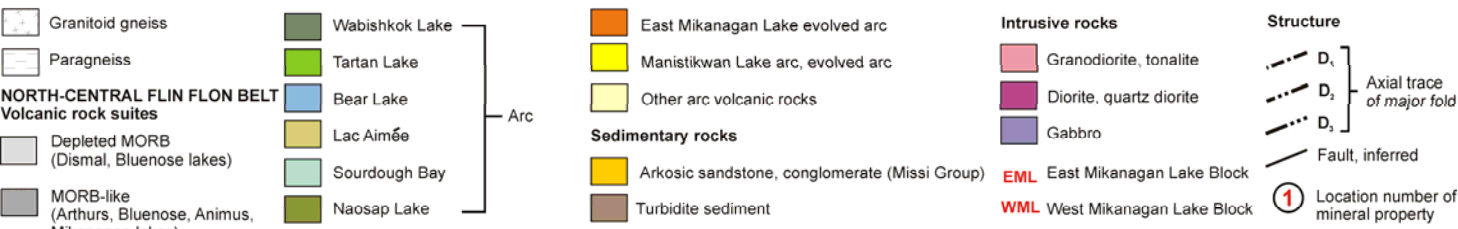
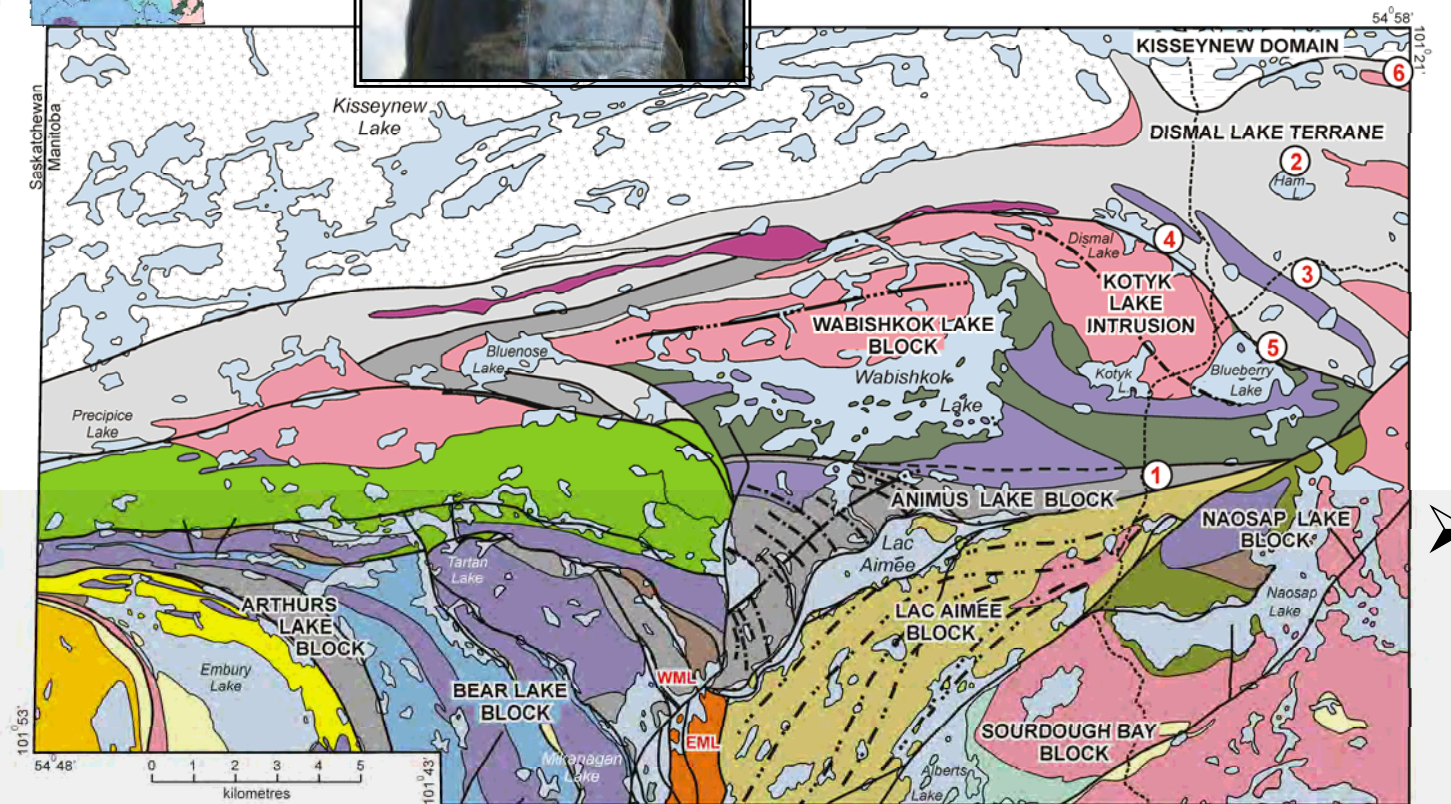
# N Flin Flon Belt



Paul Gilbert

- A geological report and 1:50 000 scale geological map of the north-central part of the Flin Flon Belt is in preparation and planned for release in **2010**

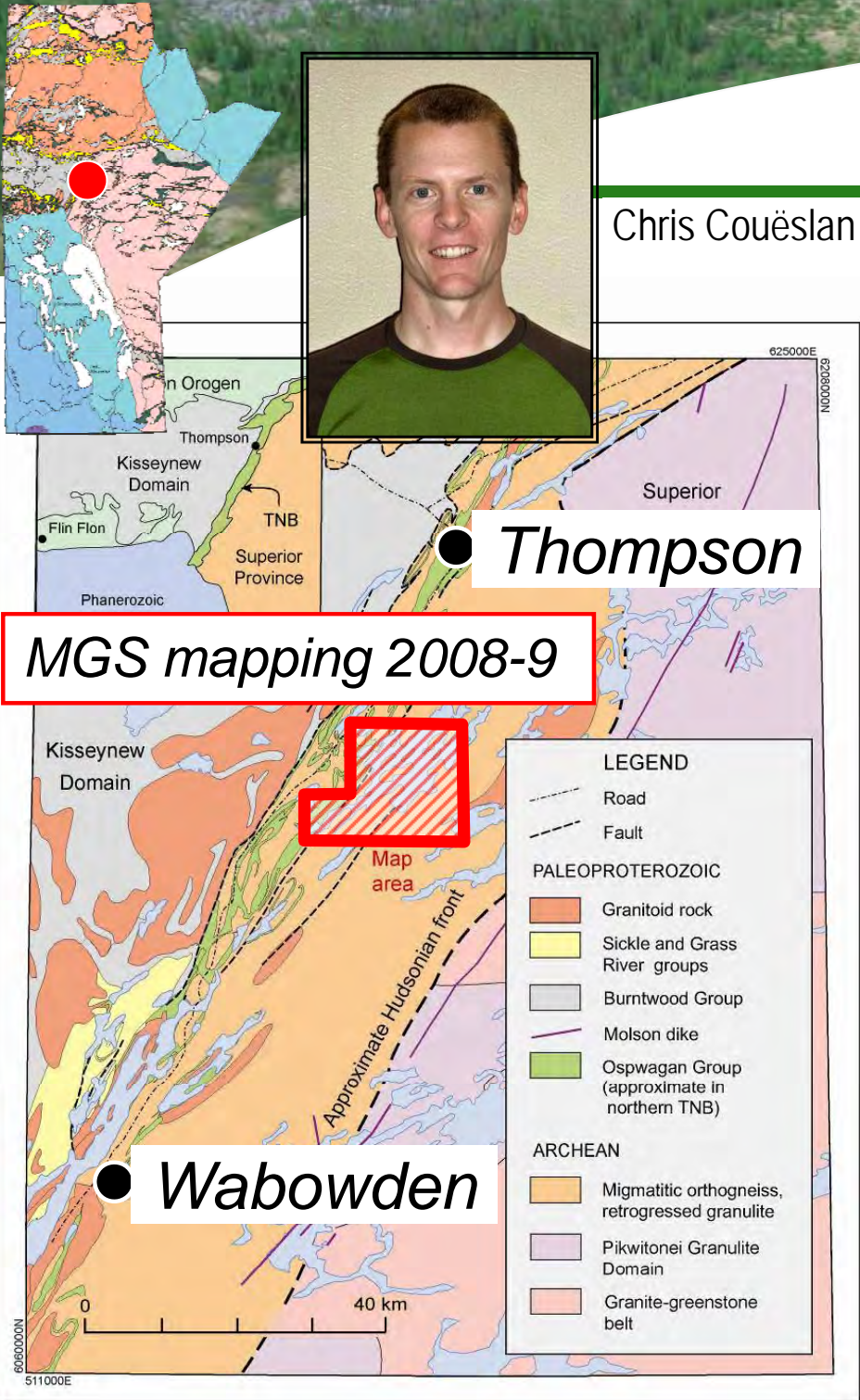
➤ integrate previous mapping with associated geochemical data



# Thompson Nickel Belt: west-central Paint Lake



Chris Couëslan



- 2<sup>nd</sup> year of a 2-year project to improve understanding of the Archean basement to the TNB
- **Archean** metasedimentary sequence is similar to the Ni-hosting **Paleoproterozoic Ospwagan Group**, adding complexity to Ni exploration in this part of the TNB



Michelle Nicolas



97°35'  
52'55"



Jim Bamburak

### Shallow Unconventional Shale Gas Project

➤ **4-year** project to **summarize** the shallow shale gas prospects for Manitoba, **characterize** the gas, **define the area** of gas occurrence, and **identify intervals** with prospective formations with the greatest potential to contain gas

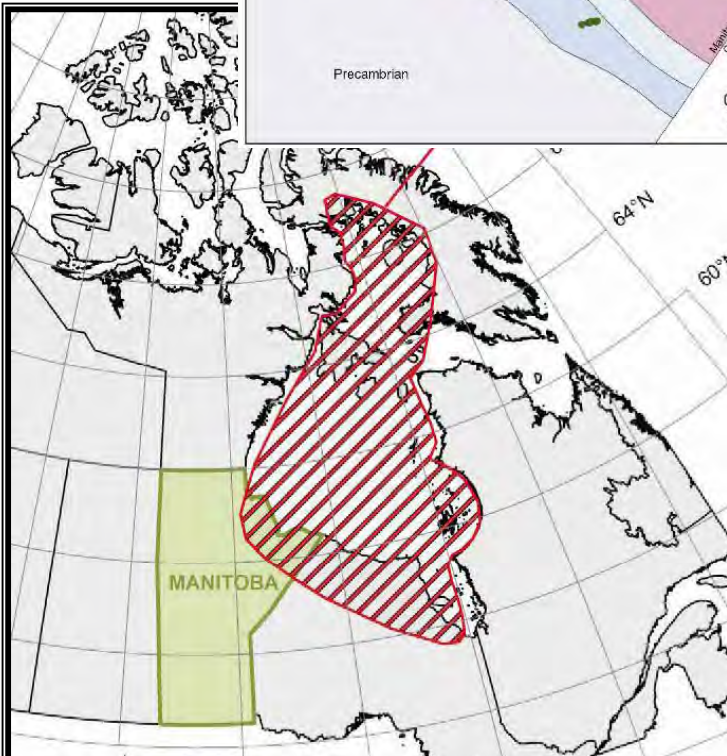
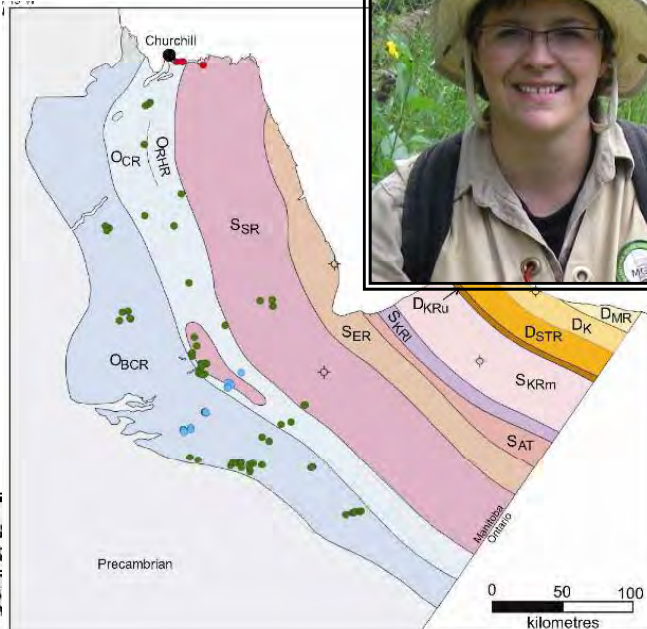
- **Study components** in 2009:

1. *Petrography and organic geochemistry* of Cretaceous successions
2. *Water and gas chemistry* of the Cretaceous shale aquifers and gas reservoirs of the Pembina Hills area
3. *MMI orientation survey* to assess the potential to define geochemical signatures associated with a shallow gas vent site near Manitou
4. Re-evaluation of Cretaceous *stratigraphic nomenclature*

Shale gas  
occurrences  
in Manitoba

# Far North Hudson and Foxe basins

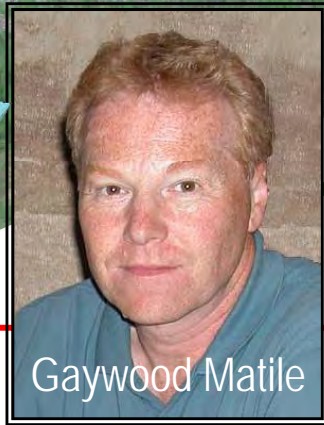
Michelle Nicolas



- Modern synthesis of the geoscience and hydrocarbon systems of the Hudson Bay and Foxe basins - part of the GSC's GEM-Energy program
- **Existing data** are being re-evaluated using modern methods
- **New data** to be acquired in areas with current knowledge gaps
- Aims to encourage industry to consider this region for future hydrocarbon exploration

# Quaternary

## 3D model



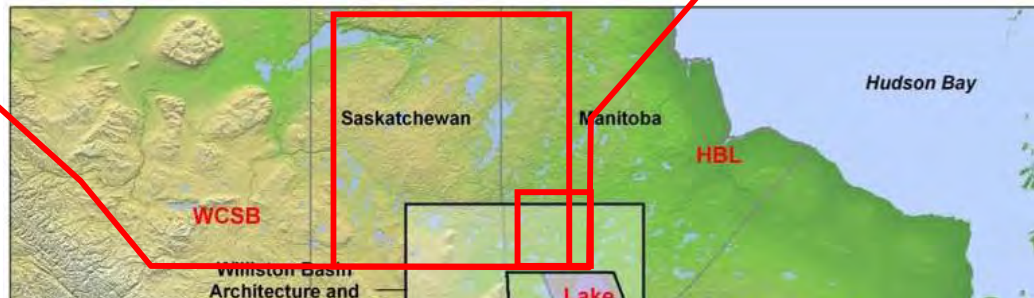
### 3D model & surficial geology

➤ MGS is a major contributor to local, national and international three-dimensional (3-D) modeling projects.

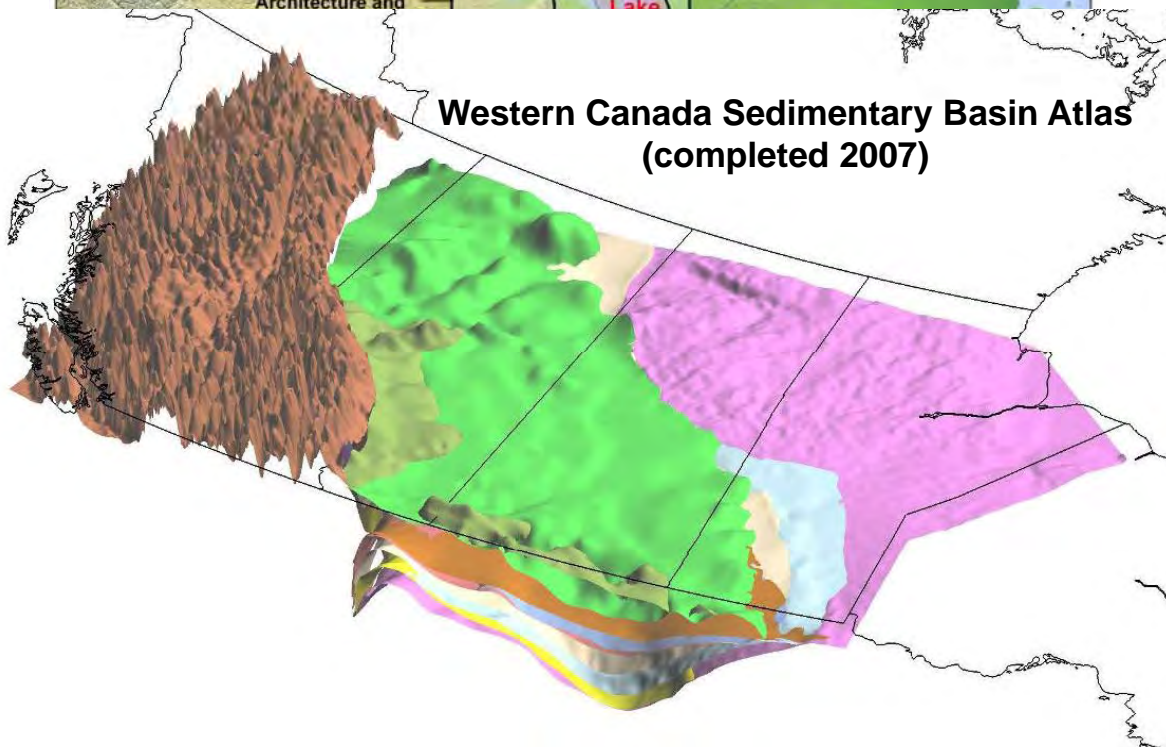
- A 3-D geological model of the Phanerozoic succession in southern Manitoba, south of  $55^{\circ}\text{N}$  and west of  $95^{\circ}\text{W}$  is in progress

➤ Contribute to:

- Phanerozoic stratigraphy;
- hydrocarbon, groundwater and industrial-mineral resource development;
- buried valley aquifer delineation
- geological education



Western Canada Sedimentary Basin Atlas  
(completed 2007)





## 4. Digital projects

# Database and compilation



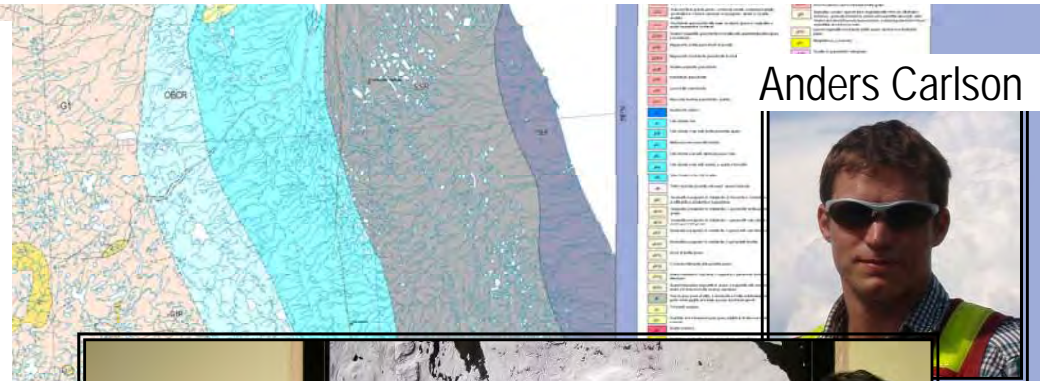
Tim Corkery Dorne Lindal Len Chackowsky

### 1:250 000 compilation

- **seamless** 1:250 000 scale digital geological base (version 1) map for Manitoba is complete
- integrated into the **GIS Map Gallery** and is now available on the web

### Mineral deposits database

- **Phase 1:** available on the Web in GIS Map Gallery site since November 2008
- **Phase 2:** incorporation of recently released non-confidential work in **assessment files**
  - **Far north** – more than 200 new records have been entered
  - updates released November 2009 in the GIS Map Gallery

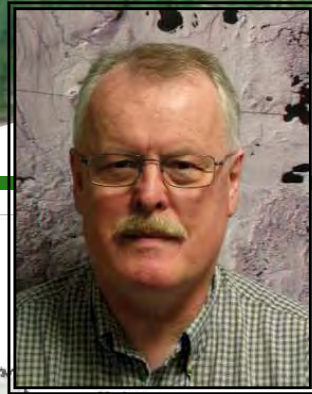


Anders Carlson

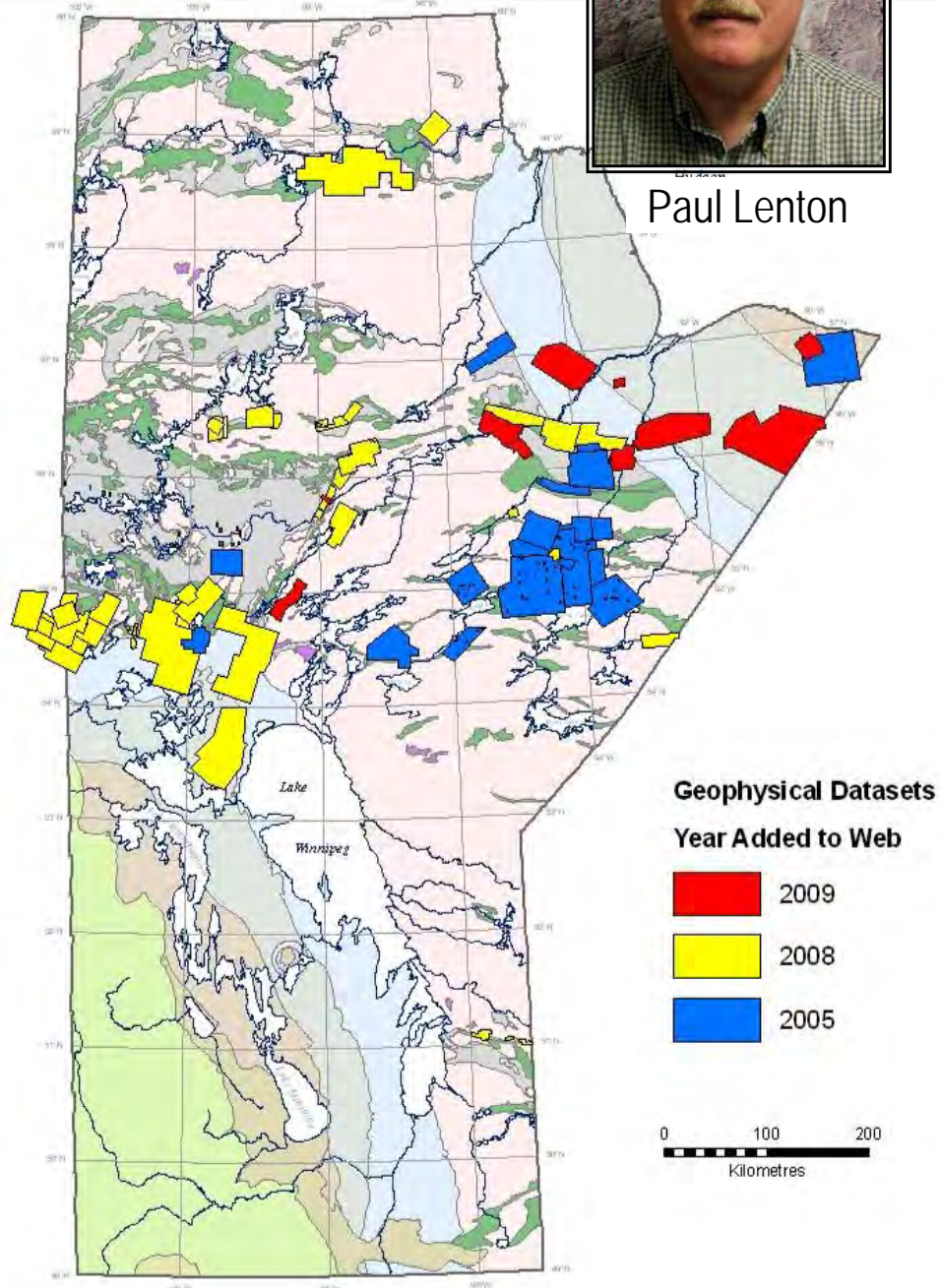


Tim Corkery Tom Heine Peter Leskiw Glen Conley  
Dave Prouse (not present)

# Airborne magnetic survey data



Paul Lenton



- **142 airborne magnetic surveys from cancelled assessment files** now available through the GIS Map Gallery
- All non-confidential surveys filed in digital formats have now been added – converted by MGS to industry standard Geosoft database and grid format
- Include both total field and vertical gradient or calculated first derivative data
- **Free downloads from the GIS Map Gallery**

# 5. MGS data releases since December 2008

**Manitoba Geological Survey**  
MGS  
1928  
GP2009-1  
APER

**Williston Basin Project**  
(Targeted Geoscience Initiative II):  
Summary report on Mesozoic  
stratigraphy, mapping and  
hydrocarbon assessment,  
southwestern Manitoba

**Maps**  
Click [here](#) for MAP LIST. Click [here](#) for INTERACTIVE MAP INSTRUCTIONS. [Back to TGI II Home](#)

MAP VIEW - Unit Extent  
Simplified Time Scale  
AGE ERA PERIOD

**Williston Basin TGI**

Home  
About TGI  
Database  
Maps  
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3D Model  
Hydrocarbon  
Assessment  
Compilation  
Hydrogeology  
Field Trip  
Abstracts  
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Contact Us

**3D GEOLOGICAL**

**Targeted Geoscience Initiative (TGI)**

**MGS Open File OF2008-11**

**CAMIRO PROJECT 97E-02  
THOMPSON NICKEL BELT**

Final report March 2002  
*Revised and updated June 2003*

**Sponsors**  
Billiton International Metals B.V.  
Falconbridge Ltd.  
Hudson Bay Exploration and Development Co. Ltd.  
Inco Ltd.  
WMC Ltd.

**Researchers**  
O.M. Burnham, N. Halden, D. Layton-Matthews,  
C.M. Leshner, J. Liwanag, L. Heaman, L. Hulbert,  
N. Machado, D. Michalak, M. Pacey, D.C. Peck,  
A. Potrel, P. Theyer, K. Toope, H. Zwanzig

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- **GP2009-1: Williston Basin Project (Targeted Geoscience Initiative II): Summary report on Mesozoic stratigraphy, mapping and hydrocarbon assessment, southwestern Manitoba;** by M.P.B. Nicolas
- **TGI II Williston Basin Project: 39 stratigraphic maps** (structure and isopach) of the Mesozoic
- **Williston Basin TGI II hydrocarbon assessment compilation;** by M.P.B. Nicolas and J. Coolican
- **Williston Basin 3D Geological Model** (web release only)
- **OF2008-11: CAMIRO Project 97E-02, Thompson Nickel Belt: final report** March 2002, revised and updated 2003; by M. Burnham, N. Halden, L. Heaman, D. Layton-Matthews, M. Leshner, J. Liwanag, N. Machado, D. Michalak, D. Peck, A. Potrel, K. Toope and H. Zwanzig

# MGS data releases since December 2008

**Airborne geophysical survey of the Great Island and Seal River area, Manitoba**  
(NTS 64P/03, 64P/02, 64P/01 and part of 54M/04, 64I/16 and part of 54L/13, 64I/15, 64I/14, 64I/11, 64I/10, 64I/09 and part of 54L/12, 64I/07, 64I/06, 64I/08 and part of 54L/05, parts of 64I, 64P, 54Land 54M)

OF2009-1 to OF2009-12

**Till geochemical and indicator mineral reconnaissance of southeastern Manitoba**  
(west half of NTS 52E and 52L and all of 62H and 62I): final results

Manitoba Geological Survey  
Data Repository Item DRI2009001

Operation Superior: multimedia geochemical survey results northeast of the Kneel Lake greenstone belt, northern Superior Province, Manitoba (NTS 53M, 53N)  
by M.A.F. Fedikow, E. Nielsen, G.G. Conley and P.G. Lenton

Contents:  
LIST OF FILES

2001Appendix_B1.xls	Enzyme Leach ICP-MS and ICP-AES, H+ and K Analyses.
2001Appendix_B2.xls	Duplicate Pair Enzyme Leach ICP-MS and ICP-AES, H+ and K Analyses.
2001Appendix_TL.xls	ICP-AES, Hg (Cold Vapour - AAS) And As (Hydride)

- **OF2009-1 to OF2009-12: Airborne geophysical survey of the Great Island and Seal River area, Manitoba;** by R. Fortin, M.Coyle, J.M. Carson and F. Kiss
- **OF2009-13: Till geochemical and indicator mineral reconnaissance of southeastern Manitoba** (west half of NTS 52E AND 52L and all of 62H and 62I): final results (digital web release only); by L.H. Thorleifson, G.L.D. Matile, G.R. Keller, and S. A. Hauck
- Data Repository Item: **DRI2009001** (digital web release only) **Operation Superior: multimedia geochemical survey results northeast of the Kneel Lake greenstone belt, northern Superior Province, Manitoba** (NTS 53M, 53N) by M.A.F. Fedikow, E. Nielsen, G.G. Conley and P.G. Lenton
- **Mineral Deposits Database;** by G.G. Conley, T.H. Heine, D.E. Prouse, P. Leskiw et al. (web release)

Bedrock Geology Map of Manitoba - Microsoft Internet Explorer

http://www.gov.mb.ca/stem/mrd/geo/g...

Manitoba Mineral Deposits Database

Deposit Number: MD011-002

Page: 1

Location Name	Latitude	Longitude	NTS	Location
...	...	...	...	...



## **Cartography**

**Bonnie Lenton, Mark Timcoe,  
Ed Truman (retired), Maureen McFarlane**



**G.I.S. Specialist  
Mark Pacey**



# Client Services

**Ingrid  
Jarowec  
(retired)**

**Elaine  
Hunter**

**Laurie  
Janower**

**Craig  
Steffano**

**Monique  
Lavergne**

**Elaine  
Stephenson**

2000



Search the BMG - Microsoft Internet Explorer

Address: http://www2.gov.mb.ca/itm-cat/web/advwebsearch.html

## Manitoba's Mineral Resources

Gov Home > Science, Technology, Energy and Mines > Mineral Resources Division

### Search the Bibliography of Manitoba Geology

For a simple search use the Keyword query box.

For an advanced search use any of the following query boxes.

**Keyword**

AND [ ]

**Title**

AND [ ]

**Author**

AND Bambarak

**Publisher**

AND [ ]

**Report Series**

AND [ ]

**Report No**

AND [ ]

**Map Series**

AND [ ]

**Map No**

AND [ ]

**Journal**

AND [ ]

**Conference**

AND [ ]

**NTS Area (View NTS Map of Manitoba Example: 62F2)**

AND [ ]

**Subject**

AND [ ]

**ISBN**

AND [ ]

**Medium Source**

AND [ ]

**Search Tips and Examples**

**Within search boxes:**

- Use & for AND (gold & copper)
- Use / for OR (gold / copper)
- Use ! for NOT (gold ! copper)

**Special Characters:**

- Use \* to truncate (e.g. deposit\* finds deposit, deposits, deposition, etc.)
- Use >, <, >=, <= for greater or less than (e.g. <= 1999 finds dates earlier than 1999 inclusive)
- Use ~ to search a range (e.g. 1999-2003)

**Toggle buttons:**

- Use between criteria to limit the search (AND, OR, NOT)

Inmagic DB/Text WebPublisher PRO: 119 records - Microsoft Internet Explorer

Address: http://www2.gov.mb.ca/dbtw-wpl/exec/dbtwpub.dll

## Mineral Resources Library

Webbrief

### Brief Record - Bibliography of Manitoba Geology

Your query found 119 record(s).

Bambarak, J.D. 1971. [The geology of Turtle Mountain](#). Manitoba Department of Mines, Resources and Environmental Management, Mines Branch, Summary of Geological Field Work, 1971, Geological Paper 671, p. 65.

Bambarak, J.D. 1973. [The Upper Cretaceous and Paleocene stratigraphy of Turtle Mountain, Manitoba](#). M.Sc. thesis, University of Manitoba, 110 p.

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Bambarak, J.D. 1978. [Stratigraphy of the Riding Mountain, Boissevain and Turtle Mountain formations in the Turtle Mountain area, Manitoba](#). Manitoba Mines, Resources and Environmental Management, Mineral Resources Division, Geological Report GR 78-2, 47 p. + 5 maps at 1:250,000.

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http://www2.gov.mb.ca/itm-cat/web/advwebsearch.html



# Rock Preparation Lab - Midland

**Neill Brandson**

**Gerry Bengner**

**Dave Binne  
(resigned)**

**Doug Berk  
(retired)**

**Rick Unruh**

**Don Snuggs  
(retired)**

**Vio Varga**



# Manitoba Mines Branch



**Ernie Armitt**  
Director  
Manitoba Mines Branch



# Manitoba Mines Branch

- Administers legislation governing:
  - the disposition of mineral rights (permits, claims and leases) under [The Mines and Minerals Act](#) (C.C.S.M. c. M162), and regulations thereunder.
  - exploration, development, and production of the province's non-fuel mineral resources and
  - the rehabilitation of mines and quarries.



# Mines Branch Central Office



2000

[www.manitoba.ca/minerals](http://www.manitoba.ca/minerals)



# Mineral Rights

- To determine the ownership of mineral rights within a parcel of land in Manitoba, as contained in the land title, please contact:
  - Lands Branch
  - 123 Main Street
  - P.O. Box 20000 ph. (204) 476-7060
  - Neepawa, MB R0J 1H0 fax (204) 476-7539
- Three essential items should be requested:
  - Surface holder (may be necessary to check with local Land Titles office)
  - Sand and gravel holder
  - Minerals holder



# Private Holder Rights

- The surface rights may be private or Crown. If private, the holder must be contacted before attempting any access onto the property.
- The sand and gravel rights may also be private or Crown. Subject to the above, if the sand and gravel rights are private, the holder must be contacted before examination of the occurrence.
- The mineral rights, exclusive of sand and gravel (above), may also be private. Any examination of the ground must be done with the permission of the mineral rights holder and with the sand and gravel and surface rights holders, if any.

# Crown Rights

- If the surface rights are Crown, access onto the property may be possible, but care must be taken to ensure that these rights have not been assigned to other individuals or that temporary conditional uses are not in place.
- If, the sand and gravel rights are Crown, access onto the property may be possible, subject to the above. However, removal of sand and gravel will require application to the Mining Recording Office in Winnipeg.
- If the mineral rights, exclusive of sand and gravel, are Crown, anything beyond a cursory examination of the ground must be done after application to the Mining Recording Office in Winnipeg. A work permit from the local Natural Resources Office will also be required.



# <http://www.gov.mb.ca/stem/mrd/mines/acts>

- **M162 - Act**
- M162 - [The Mines and Minerals Act](#)
  
- **M162 - Regulations**
- MR 64/92 - [Mineral Disposition and Mineral Lease Regulation, 1992](#) (with amendments)
- MR 165/92 - [Prospectors Assistance Program Regulation; Amendment - Regulation 3/2001](#)
- MR 65/92 - [Quarry Minerals Regulation 1992](#)
- MR 67/99 - [Mine Closure Regulation](#)
  
- General Closure Plan Guidelines, available in [html](#) or [PDF format](#)
- Mine Closure Guidelines, Financial Assurance available in [html](#) or [PDF format](#)
- MR 63/92 - [Drilling Regulation, 1992](#)

## **Other Related Acts and Regulations**

- M190 - [The Mining and Metallurgy Compensation Act](#)
- M165 - [The Mining Claim Tax Act](#)
- M195 - [The Mining Tax Act](#)
- P80 - [The Planning Act](#)

## **P80 - Regulations**

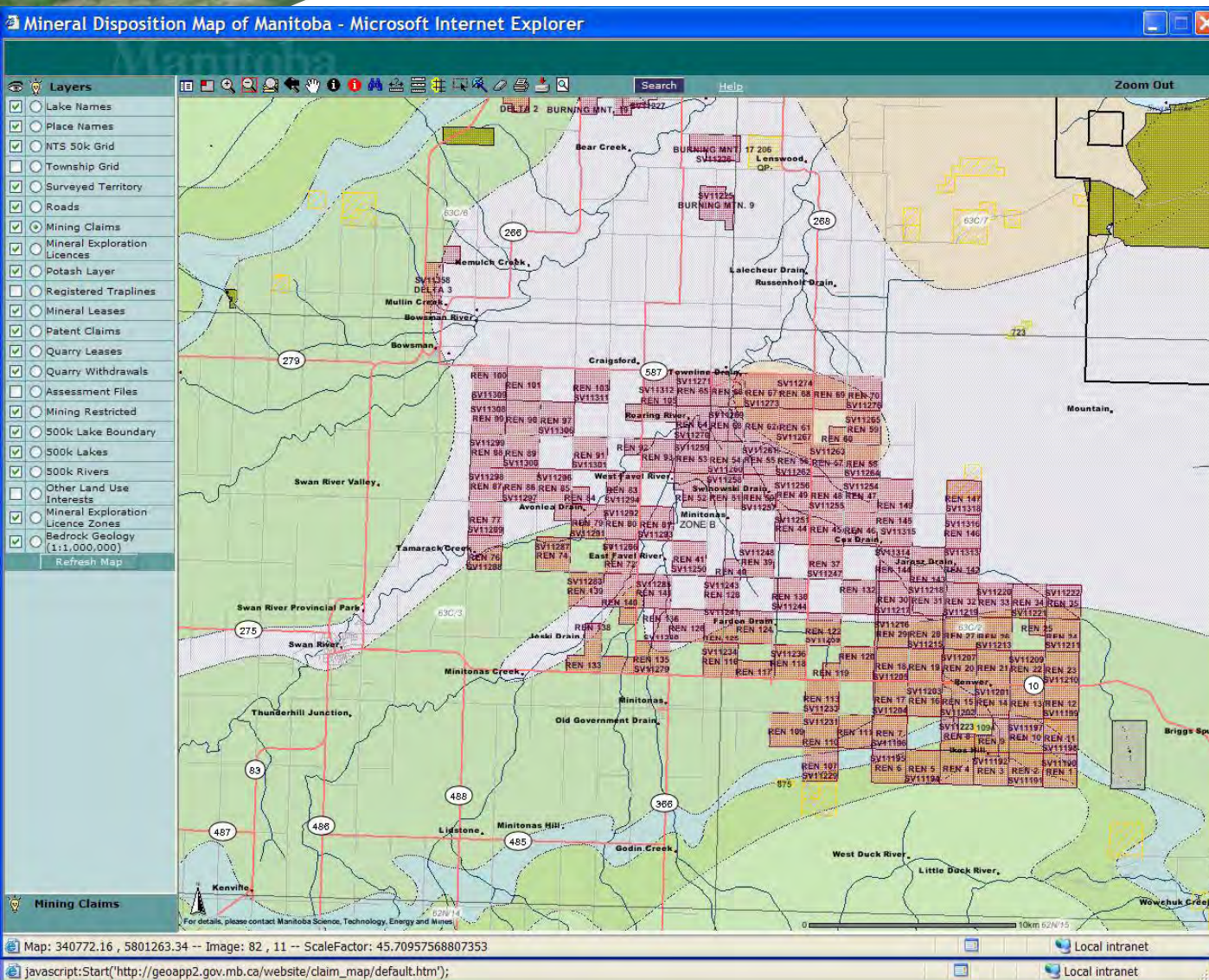
- MR184/94 - [Provincial Land Use Policies Regulation Policy #9 - Mineral Resources](#)
  
- W210 - [Workplace Safety and Health Act](#)

## **W210 - Regulations**

- MR 228/94 - [Operation of Mines Regulation](#)



# Mining Claims

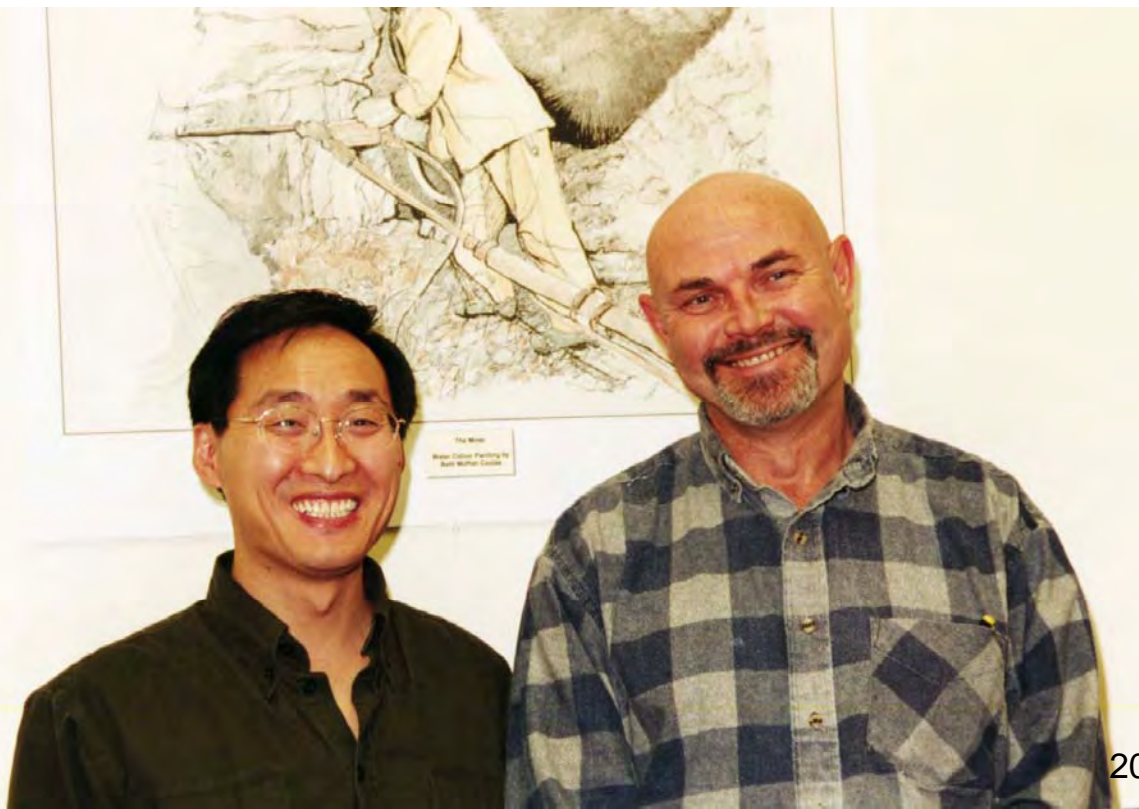


Mining Claims								
Rec	NAME	NUMBER	HOLDER	STAKED	RECORDED	EXPIRES	HECTARES	GROUPING
101	REN 141	SV11285	JIM BROWN		2008/07/04	2010/09/02	283	
102	REN 140	SV11284	JIM BROWN		2008/07/04	2010/09/02	283	
103	REN 139	SV11283	JIM BROWN		2008/07/04	2010/09/02	283	
104	REN 138	SV11282	JIM BROWN		2008/07/04	2010/09/02	69	
105	REN 137	SV11281	JIM BROWN		2008/07/04	2010/09/02	65	
106	REN 136	SV11280	JIM BROWN		2008/07/04	2010/09/02	132	
107	REN 135	SV11279	JIM BROWN		2008/07/04	2010/09/02	285	
108	REN 134	SV11278	JIM BROWN		2008/07/04	2010/09/02	132	
109	REN 133	SV11277	JIM BROWN		2008/07/04	2010/09/02	199	
110	REN 128	SV11243	JIM BROWN		2008/07/04	2010/09/02	287	
111	REN 130	SV11244	JIM BROWN		2008/07/04	2010/09/02	287	
112	REN 132	SV11245	JIM BROWN		2008/07/04	2010/09/02	283	
113	REN 122	SV11239	JIM BROWN		2008/07/04	2010/09/02	67	
114	REN 124	SV11240	JIM BROWN		2008/07/04	2010/09/02	287	
115	REN 125	SV11241	JIM BROWN		2008/07/04	2010/09/02	287	
116	REN 126	SV11242	JIM BROWN		2008/07/04	2010/09/02	287	
117	REN 116	SV11234	JIM BROWN		2008/07/04	2010/09/02	283	
118	REN 117	SV11235	JIM BROWN		2008/07/04	2010/09/02	132	
119	REN 118	SV11236	JIM BROWN		2008/07/04	2010/09/02	287	
120	REN 119	SV11237	JIM BROWN		2008/07/04	2010/09/02	75	
121	REN 120	SV11238	JIM BROWN		2008/07/04	2010/09/02	287	
122	REN 113	SV11233	JIM BROWN		2008/07/04	2010/09/02	287	
123	REN 109	SV11230	JIM BROWN		2008/07/04	2010/09/02	283	
124	REN 110	SV11231	JIM BROWN		2008/07/04	2010/09/02	283	
125	REN 111	SV11232	JIM BROWN		2008/07/04	2010/09/02	283	



<http://www.gov.mb.ca/stem/mrd/geo/gis/minesmaps.html>

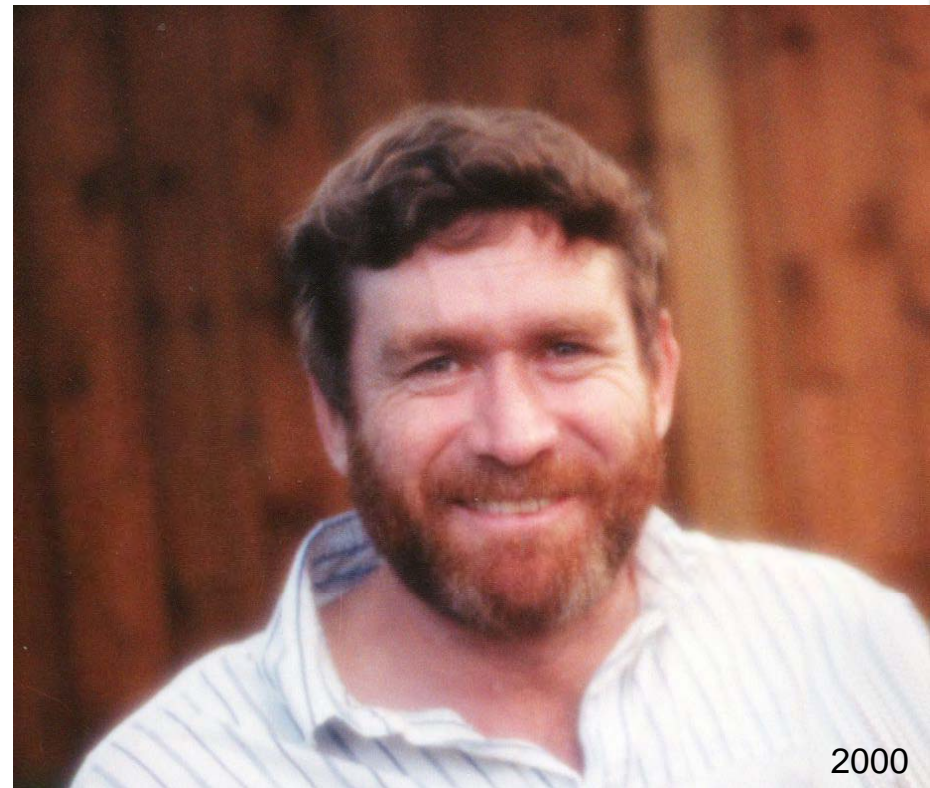




2000

**G.I.S. Support:  
Yong Zhang  
Mike Fedak**

**Acting Mining Recorder:  
Gerald Teichrib**



2000





**Bernice Derksen (resigned), Janet Forbes, Jim Payne,  
Susan Baker, Jennifer Chartrand**

# Distribution of Crown Mineral Rights

- Crown mineral rights are distributed by the Mining Recording Office under the Mines Branch of Manitoba Innovation, Energy and Mines.
- Crown quarry minerals are regulated by Quarry Minerals Regulation 65/92 under The Mines and Minerals Act (C.C.S.M. c. M162).
- Application for Crown quarry mineral rights, in writing, should be delivered or faxed with prescribed legal description, map or plan, and payment to:

Mining Recording Office

Mines Branch

Unit 360-1395 Ellice Avenue      ph. (204) 945-6526

Winnipeg, MB R3G 3P2      fax (204) 948-2578



# Mineral Dispositions within Quarry Minerals Regulation 65/92

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- Casual quarry permit
- Quarry exploration permit
- Quarry lease

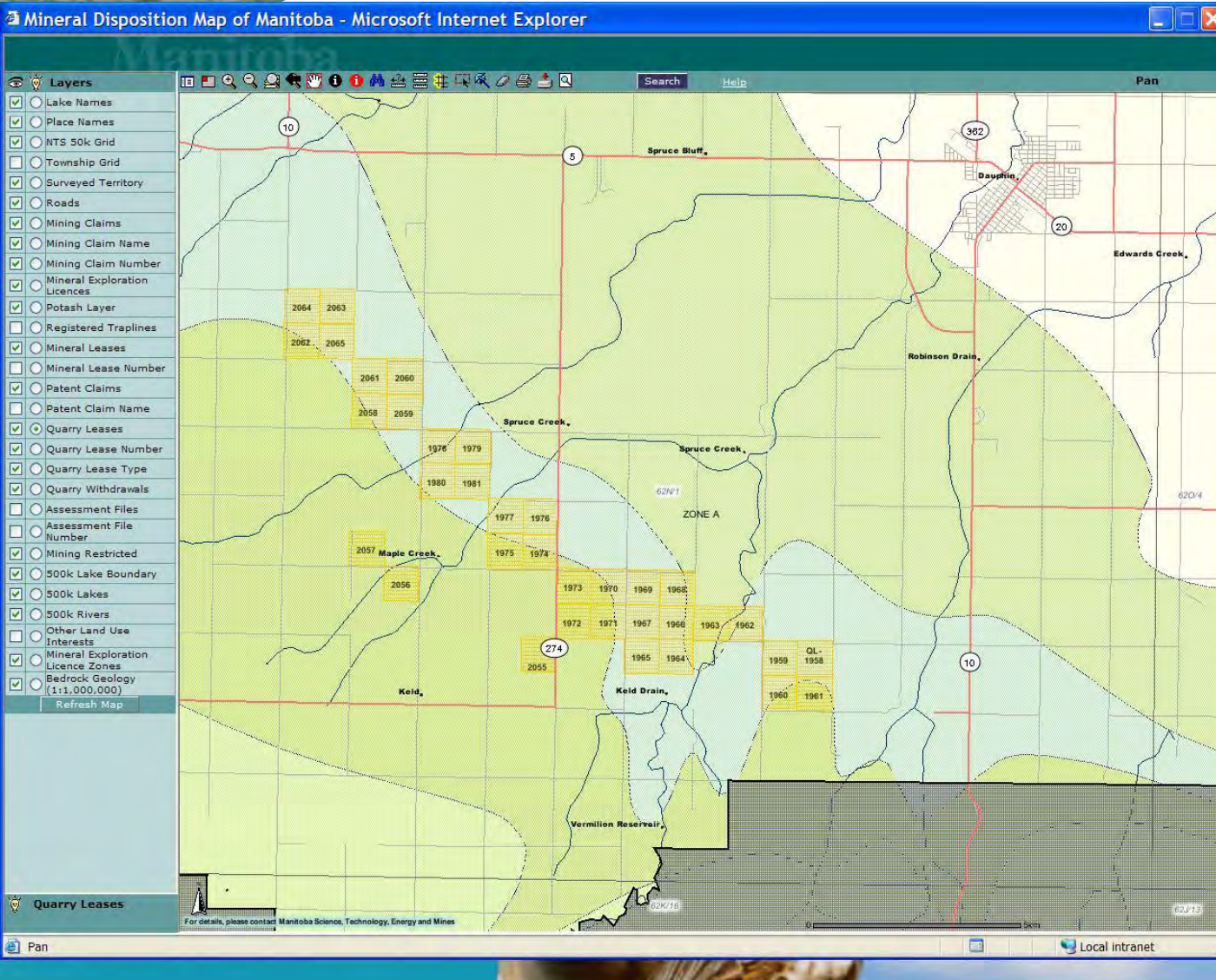
Note: if necessary, application for a surface lease may also be required in addition to the above



**Mining Recorder (Quarrying): Lynda Bennett (retired)  
Terry Zanewich, Sharon Carr, Susan Baker**



# Quarry Lease



Quarry Leases					
Rec	ID	TYPE	DISPOS_NUM	QL_STATUS	OPERATOR
1	0	QL	1958	COMP	CANADIAN INFRASTRUCTURE CORP.
2	0	QL	1961	COMP	CANADIAN INFRASTRUCTURE CORP.
3	0	QL	1962	COMP	CANADIAN INFRASTRUCTURE CORP.
4	0	QL	1963	COMP	CANADIAN INFRASTRUCTURE CORP.
5	0	QL	1964	COMP	CANADIAN INFRASTRUCTURE CORP.
6	0	QL	1965	COMP	CANADIAN INFRASTRUCTURE CORP.
7	0	QL	1966	COMP	CANADIAN INFRASTRUCTURE CORP.
8	0	QL	1967	COMP	CANADIAN INFRASTRUCTURE CORP.
9	0	QL	1968	COMP	CANADIAN INFRASTRUCTURE CORP.
10	0	QL	1969	COMP	CANADIAN INFRASTRUCTURE CORP.
11	0	QL	1970	COMP	CANADIAN INFRASTRUCTURE CORP.
12	0	QL	1971	COMP	CANADIAN INFRASTRUCTURE CORP.
13	0	QL	1972	COMP	CANADIAN INFRASTRUCTURE CORP.
14	0	QL	1973	COMP	CANADIAN INFRASTRUCTURE CORP.
15	0	QL	1974	COMP	CANADIAN INFRASTRUCTURE CORP.
16	0	QL	1975	COMP	CANADIAN INFRASTRUCTURE CORP.
17	0	QL	1976	COMP	CANADIAN INFRASTRUCTURE CORP.
18	0	QL	1977	COMP	CANADIAN INFRASTRUCTURE CORP.
19	0	QL	1979	COMP	CANADIAN INFRASTRUCTURE CORP.
20	0	QL	1978	COMP	CANADIAN INFRASTRUCTURE CORP.
21	0	QL	1980	COMP	CANADIAN INFRASTRUCTURE CORP.
22	0	QL	1981	COMP	CANADIAN INFRASTRUCTURE CORP.
23	0	QL	1959	COMP	CANADIAN INFRASTRUCTURE CORP.
24	0	QL	1960	COMP	CANADIAN INFRASTRUCTURE CORP.
25	0	QL	2062	COMP	CANADIAN INFRASTRUCTURE CORP.



<http://www.gov.mb.ca/stem/mrd/geo/gis/minesmaps.html>

# Mines Branch

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**Doina Priscu**  
**Chief Mining Engineer**



**Janet Forbes**  
**Business Lead - Integrated Mining Registry**



**Rehabilitation Technician: Mary Kliever**  
**Land Use Administrator: Barb Miskimmin**  
**Admin. Assistant: Denise Jonasson**  
**Mgr. Rehabilitation & Inspection: Brian Bailey**





# Manitoba Petroleum Branch



**Keith Lowden**

Director

Manitoba Petroleum Branch

# Manitoba Petroleum Branch

Keith Lowden, Carrol  
Director Simm

Angela  
Hiebert



Dan  
Surzyshyn

Heather  
Tisdale

Paulette Seymour

Michelle Nicolas,  
(MGS)

2009-12-18

Kathleen Jacqueline Dana  
Gervais

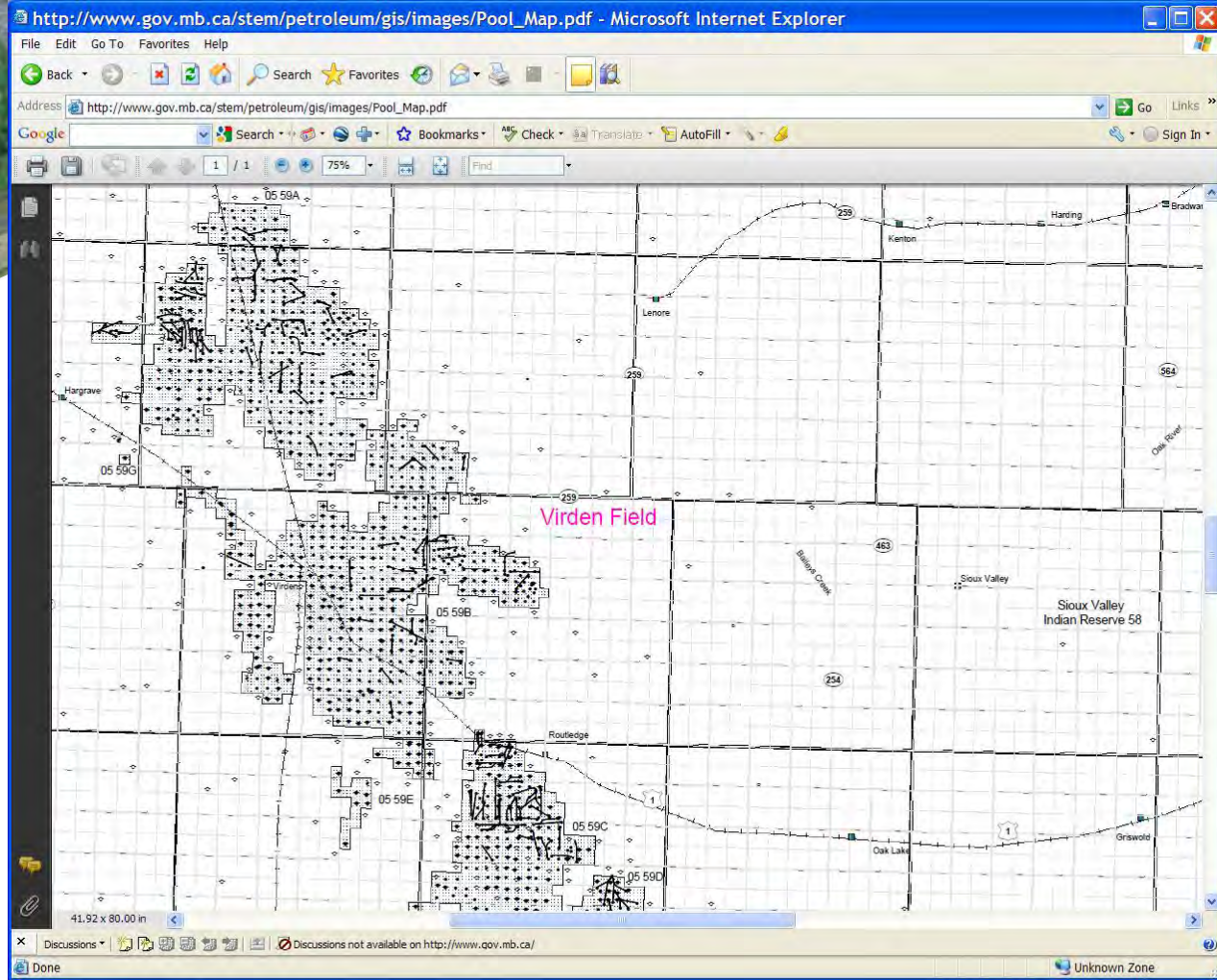


# Manitoba Petroleum Branch

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- The branch administers [\*The Oil and Gas Act\*](#) and related regulations governing the exploration, development, production, transportation and storage of crude oil and natural gas. It is also responsible for [\*The Oil and Gas Production Tax Act\*](#).
- The branch administers the Manitoba Drilling Incentive Program, maintains a comprehensive public database of technical well and reservoir information and also prepares reports on the province's petroleum geology and hydrocarbon potential to encourage and assist in the exploration and development of Manitoba's oil and gas resources.





# Oil Fields

[http://www.gov.mb.ca/stem/petroleum/gis/images/Pool\\_Map.pdf](http://www.gov.mb.ca/stem/petroleum/gis/images/Pool_Map.pdf)

Designated Oil Pool Information

FIELD	POOL	Discov Year	Avg. Depth Producing Zone (m)	Oil Density kg/m <sup>3</sup>	Sulphur Content g/kg	2003 Active Wells		2005 Production (103m <sup>3</sup> )	Cum. Oil Production to Dec. 31/03 (103m <sup>3</sup> )	Remaining Proved Oil Reserves at Dec. 31/03 (103m <sup>3</sup> )	Remarks
						Oil Producers	Other				
Daly	Lodgepole A	1951	775	859	14.8	177	31	52.2	4426.3	910.9	P & W
	Lodgepole B	1954	765	850	12.9	18	1	3.6	318.6	36.3	P
	Lodgepole C	1954	745	856	13	5	0	0.5	160.3	13.5	P
	Lodgepole D	1954	795	850	12	76	4	12	492.4	73	P & Term. W
	Lodgepole E	1951	765	861	16.2	20	2	14	245.4	65.5	P
	Lodgepole F	1955	840	854	14.8	6	0	1.4	50.3	3.3	P & Term. W
	Lodgepole I	1985	825	850	12	2	0	0.2	6.1	1.7	P
	Lodgepole O	1993	750	--	--	0	0	0	1.2	0	Inactive
	Lodgepole P	1986	785	--	--	0	0	0	0.3	0	Inactive
	Lodgepole Q	1986	770	--	--	2	0	0.2	6.7	0.8	P
	Lodgepole S	1986	860	--	--	1	0	0	4	0	P
	Lodgepole T	1998	810	--	--	2	0	0.2	1.7	0.3	P
	Bakken A	1985	875	824	1.3	29	5	11.2	229.8	94.5	P & W
	Bakken B	1986	815	--	--	7	0	0.3	23.1	0.8	P
	Bakken I	1992	834	821	--	19	1	7.6	50.3	41.8	P&W
	Bakken J	1993	785	834	2.5	1	0	0.1	3.2	0.5	P
	Bakken M	1993	807	--	--	2	0	0.2	2.7	0.3	P
	Bakken N	1993	880	802	--	6	0	2	15.9	17.3	P
	Bakken P	1995	844	--	--	2	0	0.2	1.6	0.5	P
	Bakken Q	1994	831	823	--	3	0	0.3	4.1	0.4	P
	Bakken R	1995	905	832	5.7	1	0	0	1	0.1	P
	Bakken V	1995	862	--	--	1	0	0.2	2.2	0.9	P

<http://www.gov.mb.ca/stem/petroleum/reserves/oilpool.pdf>



# Minerals Policy and Business Development



**Chris Beaumont-Smith**

Acting Manager

Minerals Policy and Business  
Development

# Manitoba Policy and Business Development Section

- Responsible for monitoring industry and commodity information used in formulating:
  - Manitoba's minerals policies,
  - promoting mining and exploration investment opportunities, and
  - administering the [Mineral Exploration Assistance Program \(MEAP\)](#) (Linda Rogoski) and the [Manitoba Prospectors Assistance Program \(MPAP\)](#) (Donna Dault).





# Interesting Sidelights



# Shepherd & Cole

## AT DUSK

—on the shore of an unnamed Precambrian lake—

Deep pools and cool; and sun  
Fast lowering behind the tall pines' shade.  
Rustle of nesting bird; and somnolent hush,  
Bestirred by cooling protest 'gainst the noon-day's warmth  
On creviced basalt; and the sweep  
Of nighthawk, insect-bent.  
Cool granites, ramparts of antiquity,  
Aged as the stars themselves,  
And worn, eroded by the unkind  
Missioners of time.  
And, on the pools and little padded bays,  
Sanctuary seeking in the warmer rocks,  
Are water-lilies, starred rays of sun  
Stolen from noon-day's height, until  
Another morn shall burst new buds.  
Then, cooling more along those narrow arms  
Where lake and earth are wed,  
And there beget the stream,  
The swamp's cool-trailing vapor  
Tells that night has come.

F. D. Shepherd  
May 1, 1937

G.A.C.



Frank D. Shepherd, Geologist



George A. Cole, Director



Bentonite mine,  
Belle Fourche, South Dakota  
1939



FIFTY YEARS FROM NOW 1939

In nineteen eighty-nine, if you visit any mine,  
You'll see great changes that have come to stay --  
Miners dropping from the sky, landing down beside the "dry"  
To park their little gyros for the day.

When you walk up to the shaft you'll swear they've all gone daft,  
For each in turn will jump right into space;  
But then you do not know of the gravitator, so  
You swallow hard and step into your place.

If you walk along a drift and you watch a miner lift  
A gadget that is called an "ion gun",  
Hold it close up to his eye, press the trigger and let fly,  
You may be just inclined to turn and run.

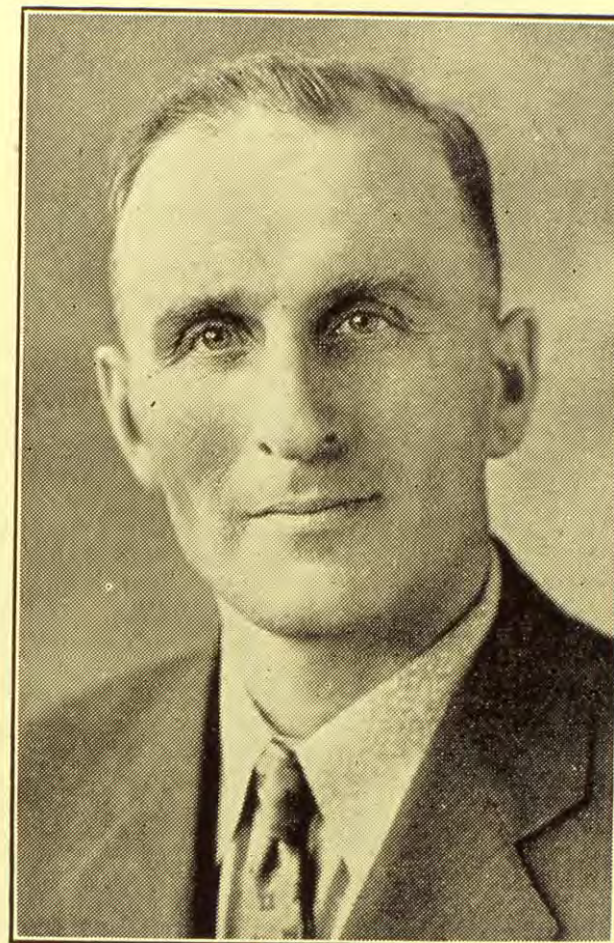
But it's really safe and sound; he's just shooting off a round,  
And the ore is blasted out as fine as flour;  
Yet it quickly settles there; no pollution of the air,  
For the little "ion gun" has wondrous power.

The mucker's work is play, for it's done the vacuum way,  
And the floury ore is sucked right to the mill.  
No shovelling aches and pains, no compensation strains,  
And consequently accidents are NIL.

Ah, yes! my mining friend, if this inventive trend  
Should carry on another fifty years,  
They'll mine the hidden ore from the stock promoter's door;  
But we'll be dead, so why should we have fears.

W.B. Paton,  
Inspector of Mines.

Paton



W. B. PATON



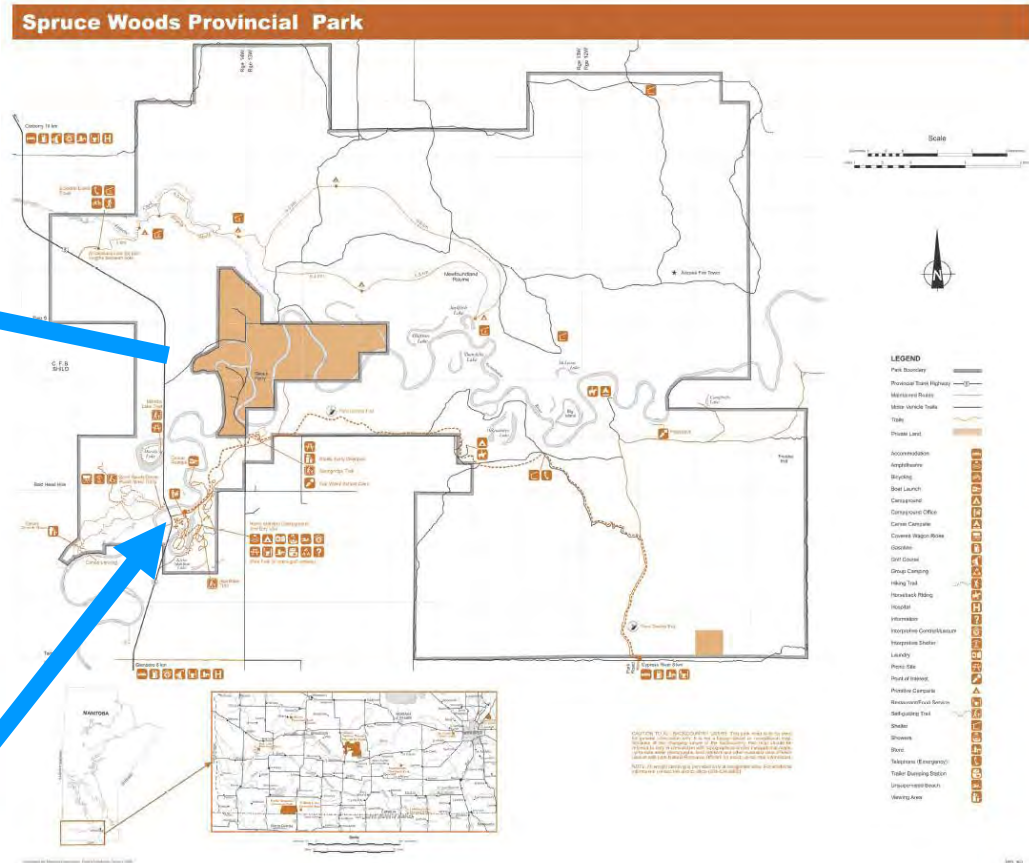
# Rock Hounding in the Assiniboine River



Kiche Manitou Campground, Spruce Woods Provincial Park 2008-07-08



# Rock Hounding in the Assiniboine River



# Rock Hounding in the Assiniboine River

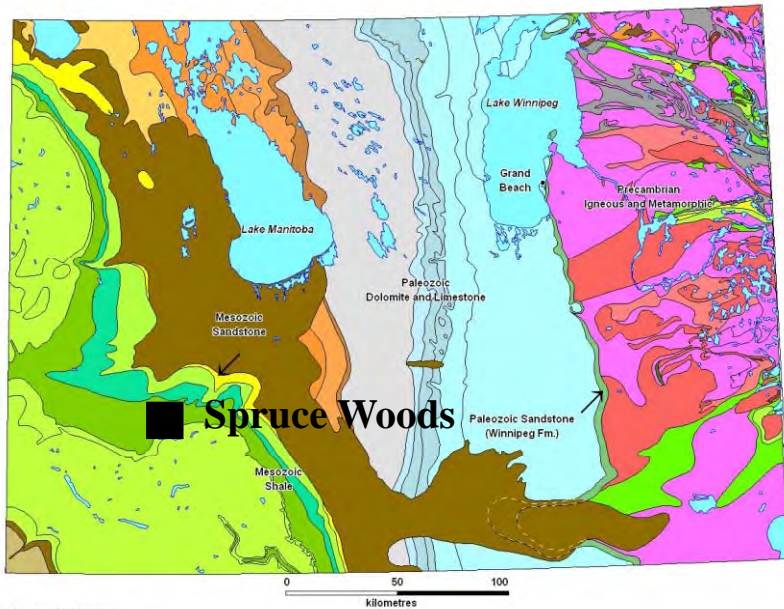
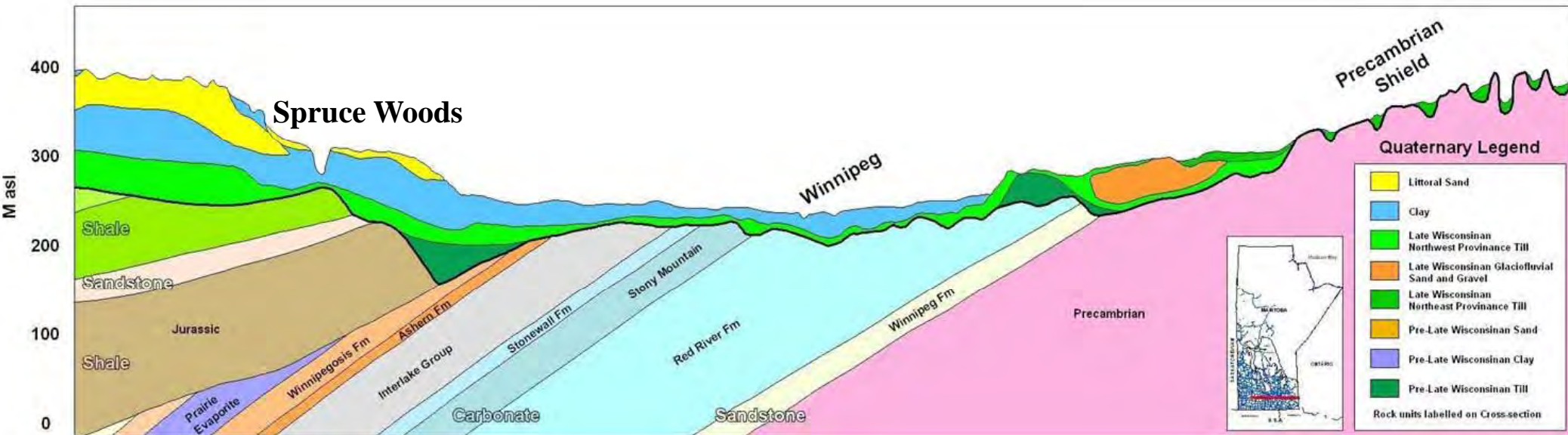
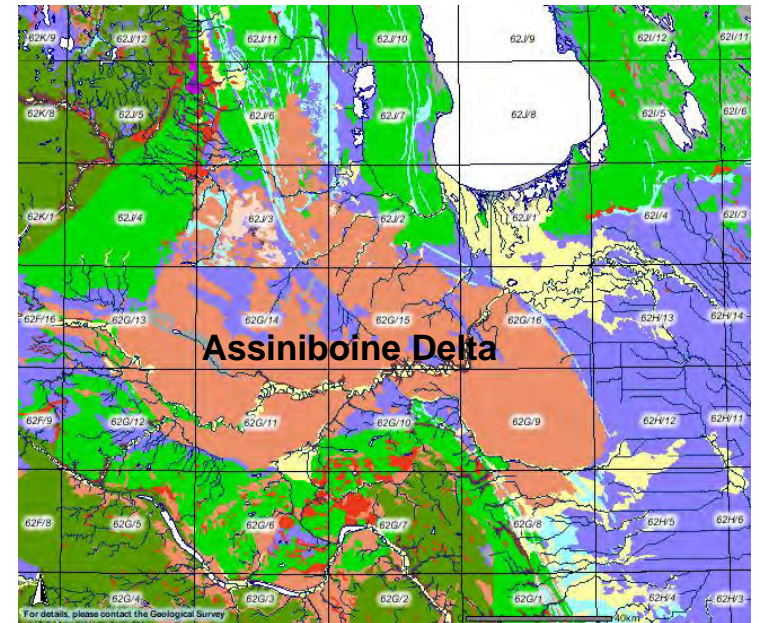


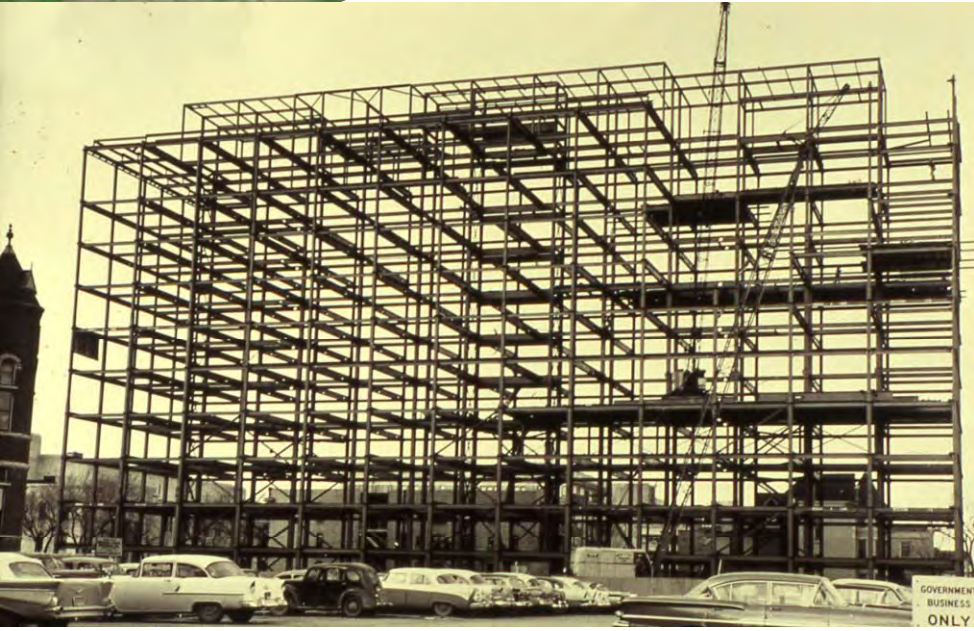
Figure 4: Bedrock Geology.



Sand dunes



# Norquay Building



# W.M. Ward Technical Services Laboratory



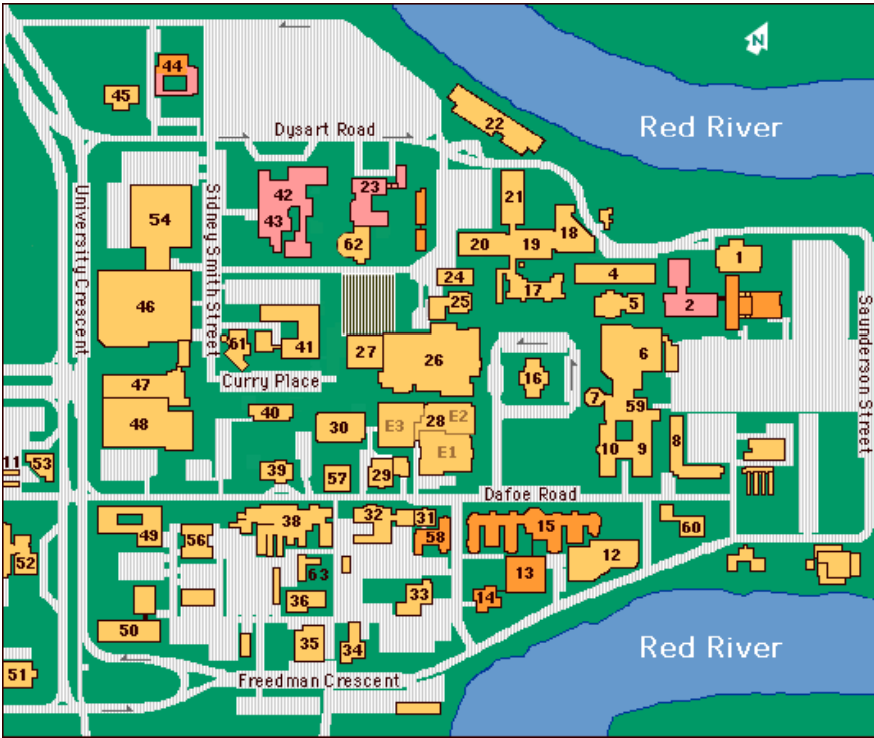
Opening of Analytical Laboratory of the Mineral Resources Division on Logan Avenue by Hon. Garry Filmon. The lab was formerly on the tenth floor of the Norquay Building.



# Wallace Building, U. of M.



Wallace Building, entrance



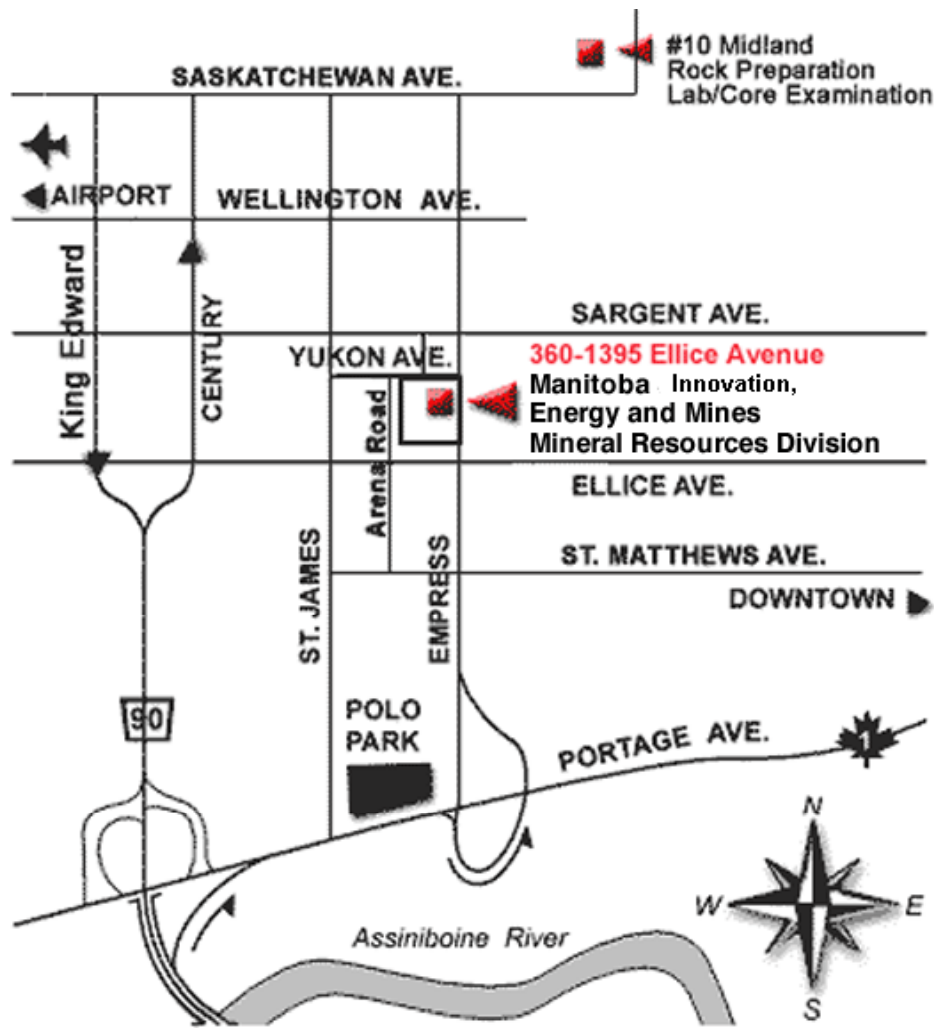
Wallace Building, Fort Garry Campus, University of Manitoba (22)  
Built in 1986, with a fourth floor addition in 2005



Robert Charles Wallace



# Earth Day Visit of MRD Offices



- Thursday, April 22<sup>nd</sup>, 2010
- Tour of Ellice Place facilities
- Tour of Midland Rock and Storage facilities





Cartographic Staff



Mining Recording Staff

# Christmas 1946



Christmas Party for Department Staff  
Basement of the Law Courts Building  
December 17, 1946



# The Beginning

